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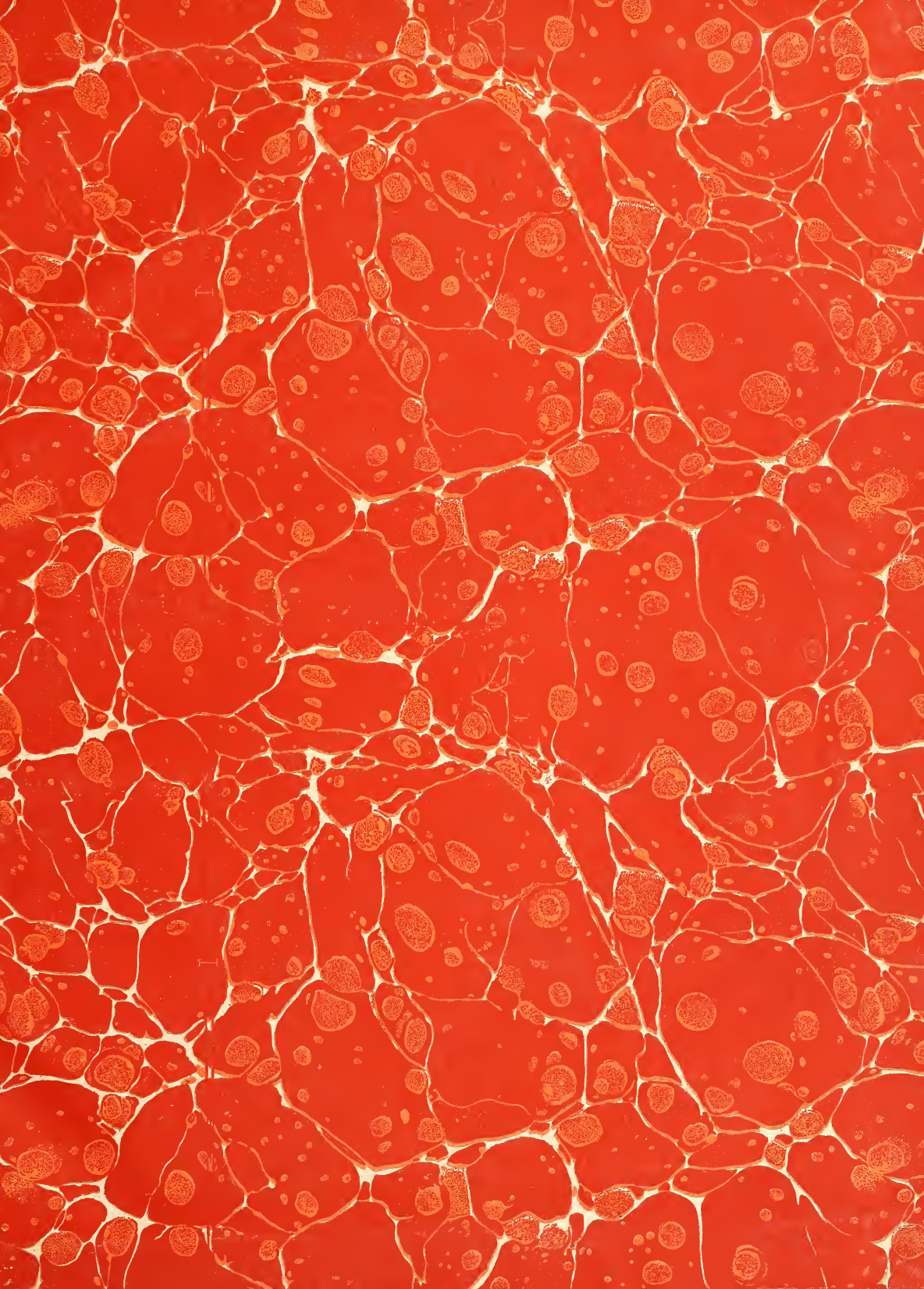
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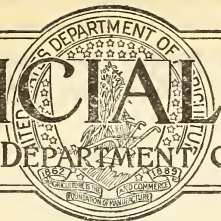
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. IV

WASHINGTON, D. C., JANUARY 7, 1925

No. 1

GINNING REPORTS CONSIDERED IN BILL

Other Bills Introduced Concerning Settlement of Government Land and Establishment of National Forest

Senator Ransdell, of Louisiana, has introduced a bill (S. 3783) in Congress to amend the United States cotton futures act and the United States cotton standards act, so as to give the Secretary of Agriculture authority to use such means as may be necessary for giving effect to agreements made with foreign cotton associations and cotton exchanges for the adoption, use, and observance of universal cotton standards.

Dates to Be Covered in Ginning Reports

In a bill (S. 3530), introduced by Senator Smith, of South Carolina, the following provision is made concerning the dates to be covered in the ginning reports of the Census Bureau:

"That the statistics of the quantity of cotton ginned shall show: The quantity ginned from each crop prior to August 1, August 16, September 1, September 16, October 1, October 18, November 1, November 14, December 1, December 13, January 16, and March 1, by States; the name, post-office address and owner of each ginnership reporting; together with the quantity ginned by each ginnership; and the name of the special agent or other employee of the Bureau of the Census reporting the statistics for each district."

Aided and directed settlement on Government land in irrigation projects is provided for in a bill (S. 3779) introduced by Senator Kendrick, of Wyoming. A similar measure (H. R. 11171) has been introduced in the House by Representative Winter, of Wyoming.

The Senate has passed a bill (S. 1033) to establish the Benning National Forest in Georgia; and another bill (S. 2053) to designate the route of the old Oregon

Trail. It has passed a resolution (H. J. Res. 257) calling for a design to be made for the use of grounds in the vicinity of the Mall in Washington by the United States Botanic Garden.

Senator Capper, of Kansas, has introduced a bill (S. 3778) to establish standard weights for loaves of bread.

Foot-and-Mouth Leader Lauds "Men Who Wore the Rubber"

"The men who wore the rubber' are the men to whom credit is due for the successful and efficient work done in controlling and eradicating the California outbreak of foot-and-mouth disease," said Dr. U. G. Houck, who has recently returned to Washington from the scene of carnage where he was in active charge of the fighting forces for the past eight months. Doctor Houck was enthusiastic in his praise of the "men of the saddle," inspectors and veterinarians, who followed his instructions to the letter and cooperated to the fullest extent of human effort in bringing the foot-and-mouth plague to a speedy close.

"I was merely in charge of the campaign to eradicate the disease," he said, "but I had there on the grounds the strongest force of inspectors, veterinarians, and field workers that were ever assembled anywhere in the world to fight a livestock disease. Many of the men had had previous experience in fighting foot-and-mouth disease and every man did his duty. No other State at present has a larger or a better organized veterinary force than has California. These men worked constantly in the finest harmony with our own Federal men and it was this best of co-operation at all times that so effectively aided in the ultimate success of the campaign.

"It was hard for the veterinarians and other workers—the men who wore the rubber goods, as we refer to them—

(Continued on page 8)

REVIEW OF YEAR'S LIVESTOCK SITUATION

Industry as a Whole Showed Some Improvement Over Previous Year

The year 1924 was one of promise rather than of actual fulfillment for the average livestock producer, according to the department's review of the situation. Conditions in the industry showed improvement, on the whole, over 1923, but the situation nevertheless afforded ample opportunity for the critic and the pessimist, the department says. Practically no kind of livestock showed a definite price trend throughout the year, and there was more or less confusion and uncertainty for the stockman.

Livestock prices as a rule did not keep pace with increased production costs. The relatively short corn crop and resulting high prices had a slightly stimulating effect on prices, but drove hogs to market in unprecedented numbers and materially reduced the number of cattle on feed.

Cattlemen Have Poor Year

The cattlemen probably had least cause for rejoicing, the department says. Beef steers started the year well and in April sold higher than at any corresponding period since the 1921 break. Toward the end of June, however, prices fell below those of 1923, and with the exception of only two or three weeks in midsummer, continued so until the 1st of December. Range cattlemen experienced a rather disastrous season, the average prices from July to October being lower than in the panic year of 1921.

Stocker and feeder cattle were also draggy during much of the year, and average prices for the first 10 months were only a few cents higher than in 1921. As a result there were on feed in the principal feeding areas on December

1 only 86 per cent as many cattle as a year earlier. Marketings showed a slight increase over 1923, receipts of cattle and calves for the first 11 months of 1924 being 1 per cent more than a year ago. Stocker and feeder shipments during the same period decreased more than receipts, and the per cent of slaughter increased, apparently indicating a tendency toward real liquidation. There was a rather marked tendency during the last few months of the year to select heavier-weight cattle to feed, the intention of many feeders apparently being to "warm them up" on soft corn and return them to market early.

Good Prices Save Hog Industry

The hog market burdened with excessive numbers during the first five months of the year fell considerably below the pre-war average of prices. The pig survey made by the Bureau of Agricultural Economics in the spring indicated a substantial reduction in breeding and gave promise of a more normal production. Market receipts decreased in the autumn, but continued strength in corn prices sent hogs to market toward the end of the year in unprecedented numbers. Receipts at Chicago on a single day around the middle of December were 122,000 head, which was by all odds the heaviest run ever received on any one day. The net decrease in hog receipts for the first 11 months of 1924 as compared with the corresponding period of 1923 was only 1.4 per cent.

The average weight of shipper and packer droves at Chicago for the first week in December was 9 pounds less than a year earlier. But despite liberal receipts, prices during the past five months averaged considerably higher than for any similar period since 1920. Moreover, stocks of provisions toward the end of the year were comparatively light. The capacity of the market to absorb unprecedented large runs of hogs and still maintain prices on a comparatively high level has been the salvation of the swine producer for the past two years.

Sheepmen Have Good Year

The sheepman was the envy of all stockmen in 1924. His industry thoroughly liquidated in 1921, a world shortage of both sheep and wool in 1923, a brisk demand for lamb and mutton, and a protective tariff of 31 cents per pound on wool, it was not surprising that both lambs and wool closed the year higher than at any time since 1919, the department says. Moreover, thousands of unborn lambs and millions of pounds of wool which will not be shipped for another four or five months, have been contracted for at prices which the growers considered too favorable to reject.

Animal Industry Report Shows Wide Range of Activities

Noteworthy progress in dealing with veterinary, animal husbandry, dairy, and a wide range of research activities is shown by a report of the chief of the Bureau of Animal Industry. The report covers the fiscal year ended June 30, 1924. The account of the outbreak of foot-and-mouth disease points out that many obstacles not encountered in previous outbreaks made the work unusually difficult, but the disease was under control at the end of the fiscal year.

Much credit is attributed to the resourcefulness of the field forces engaged in the work.

Eradication of tuberculosis from the livestock of the United States progressed rapidly during the year, as shown by increases in the number of accredited herds and in the number of areas actively engaged in testing. Herds officially accredited as free from tuberculosis increased from 28,526 to 48,273. The total number of counties which had completed area testing or were conducting such work at the end of the fiscal year was 318, marking the largest increase in the list of counties that has occurred since systematic tuberculosis eradication began in 1917, the year the tuberculosis-eradication division was formed. As a means of still further advancing eradication of tuberculosis, the bureau gathered much new information from field sources on the eradication of the disease from swine and poultry.

The report of the Bureau of Animal Industry just issued contains the last report of the dairy division of that bureau, which at the end of the fiscal year became a separate bureau, the Bureau of Dairying. This noteworthy development of the department's dairy work is the result of the act of Congress establishing the bureau. In his report, Doctor Mohler, chief of the Bureau of Animal Industry, pays tribute to the growing importance of dairy work. He wishes the newly created bureau a continued career of public service and extends the cooperation of the Bureau of Animal Industry in the achievement of that goal.

The systematic plan of improving livestock by inducing farmers to use purebred sires continued to make progress. The report contains a summary of achievements and activities in this important field of livestock work. It shows that 2,836 persons filed declarations with the department pledging themselves to use purebred sires exclusively in their future livestock breeding operations. The close of the year marked the prepa-

ration of much new educational material, including posters and exhibits, designed to bring about further progress in livestock improvement. The report points out the numerous benefits resulting from such work and cites one county in Kentucky which increased its returns from livestock operations by more than \$100,000 a year. This greater revenue is attributed to the increase in the earning power of the stock due to better breeding.

Reports of the various divisions of the Bureau of Animal Industry discuss a wide variety of research work, regulatory activities, and special investigations. The meat inspection service experienced its most active year in its history from the standpoint of number of animals inspected. The federally inspected slaughter, supervised by the meat inspection division, covered 79,814,160 animals, exceeding the best previous record by more than 6,000,000.

The report is published in pamphlet form and, as its publication is authorized by law, provides for only a limited number of copies. It is designed for distribution chiefly among libraries, public officials, and department employees. A limited number is available for distribution among persons engaged in various livestock enterprises, as long as the supply lasts.

LIBRARIAN RECEIVES AWARD

In connection with the recent Washington meeting of the American Phytopathological Society, the Oberly memorial fund committee of the American Library Association announced the first award of the prize in memory of Eunice Rockwood Oberly, formerly librarian of the Bureau of Plant Industry. In view of her own bibliographical contributions and her appreciation of and belief in the possibilities of service inherent in bibliographical work, the committee decided to have the memorial take the form of a cash prize to the amount of the biennial interest on the \$1,000 which was contributed for the fund by Miss Oberly's associates in the department, by friends and library coworkers outside of the department, and by members of the American Phytopathological Society. The bibliography on which the first award has just been made is volume 1 of "A Bibliography of American Natural History: The Pioneer Century, 1769-1865," by Max Meisel. It is an annotated bibliography of the publications relating to the history, biography, and bibliography of American natural history and its institutions, during colonial times and the pioneer century, which have been published up to 1924, with a classified subject and geographic index, and a bibliography of biographies.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

NATIONAL FORESTS MAKE RECORD CUT

All yearly records for cut of timber from the 147 national forests were broken during the calendar year of 1923. During this period the cut for the first time in the history of the Forest Service exceeded a billion board feet. This amount exceeded the cut in 1922 by 20 per cent and had a 23 per cent greater value. Sales of national forest timber during the calendar year of 1923 also exceeded all records with a total of more than three billion board feet which had a contract value of more than \$9,000,000. Compared with the calendar year 1922 this is an increase of 68 per cent in amount and 70 per cent in contract value.

CROPS LAG BEHIND POPULATION

Crop production in the United States is not keeping pace with the annual increase in population, according to department figures. Total crop production has increased 13 per cent during the past twelve years, but production per capita has decreased about 5 per cent. The mass of crop production in 1924, as measured by an index number, is 113 per cent of the average for the five-year period 1910-1914, and in 1923 the figure was 110 per cent. The index of crop production per capita in 1924 is 95 per cent of the average for the five-year period, and in 1923 the index figure was 94 per cent. There was a decrease of about one-fifth of 1 per cent in acreage of crops from 1923 to 1924 but production in this period increased 1 per cent. The trend of crop production per capita has been lagging since about 1915, with the exception of 1920.

PRICE INDEX SHOWS SLIGHT DECLINE

A slight recession in the purchasing power of agricultural products during November is shown in the December report of the department on the agricultural situation. The purchasing-power figure is based upon the value of 30 farm products combined as exchangeable for nonagricultural products and is placed at 89 for November, as compared with 90 for October, and with 100 for the year 1913, which is used as a base. The gains in indicated purchasing power of farm products that had been made during October were

mostly lost in November, the department says. The decline is attributed to a drop in prices of farm products and some advance in nonagricultural commodities. Wheat and wool, however, moved into slightly better position. Livestock and their products, except wool, stood at a marked disadvantage in the general commodity markets. If hogs and beef cattle follow their previous cycles, says the department, it is to be expected that they will have a higher indicated purchasing power next fall.

SUGAR PRODUCTION SHOWS INCREASE

Sugar production of approximately 1,192,000 short tons from beets and cane grown in the United States this year is indicated in reports received by the department from beets and cane sugar factories. Production from the 1923 crops was 1,043,000 short tons and from the 1922 crops was 97,100 short tons. Production of beet sugar in 1924 is estimated at 1,087,000 short tons, compared with 881,000 short tons a year ago. The cane sugar crop of 1924 is approximately only 105,000 short tons, a low production caused by unfavorable weather and also by the high price of cane sirup. Cane-sugar production has steadily declined from the 324,431 short tons of 1921.

CUT IN WORLD WHEAT AND RYE CROPS

A decrease of about 440,000,000 bushels in the estimated world wheat crop this year as compared with last is indicated in reports received by the foreign service of the department up to December 17. The estimated world crop is placed at 3,298,679,000 bushels compared with 3,742,541,000 bushels in 1923. The most significant decreases during the current season, the department says, are the 200,000,000 bushels reduction in Canada, and the probable decrease of about 60,000,000 bushels in Argentina. The European crop outside of Russia is about 180,000,000 bushels below last year. A reduction of about 320,000,000 bushels in the world rye crop as compared with last year is also indicated.

PACKAGE DEMONSTRATIONS

Package demonstrations have been used by the clothing specialist of Colorado, Mrs. Blanche E. Hyde, during the past six months to supplement her work, particularly in counties having no home demonstration agents. These, she has found, could be sent to the local leader of a clothing club to serve as demonstrations of the work to be done.

It has been possible in this way for many more persons to have the advantage of the information than could have, had it been necessary for the specialist to be present for the demonstrations, since a number of clubs usually begin their work at about the same time.

Eleven packages, showing that number of different phases in clothing work, were prepared. In each package were placed folders, one to illustrate each step in the process, suggestions for the use of the package, and a bulletin on the subject to which references were made by page number in the folders. A list of the folders inclosed, a gummed addressed mailing slip for the return of the package, and a note of the date on which it should be returned to the State office aided safe handling of the packages. Each group of folders was inclosed in a large manila envelope bearing the title of the project.

The packages have been available for about six months. During this time the packages for the materials project have been requested 3 times; that on suitability of materials for different uses, 7 times; decorative stitches, 16 times; flowers, 3 times, garment making has had 15 calls; that showing garments made from shirts and flour sacks had 5 calls, infants' clothing 5 calls; lunch cloths project was requested 5 times; needle craft (includes utility bags, soft toys, etc., and has been available since October 1 only), 15 times; and that on undergarments has been sent to 4 clubs. Several duplicate packages of those most popular are available for use by clubs desiring the same work on the same dates. A package for girls' clubs which are just beginning clothing work has recently been completed.

Altogether, the package demonstrations have represented the specialist on 78 trips and have visited 18 countries in the first six months of their service.

The monthly meeting of the St. Louis U.S.D.A. Club was held on Friday, December 12, 1924, at the American Hotel. Paul W. Brown, editor of America at Work, and nationally known as an authority on the manufacturing industries of this country, was the principal guest. Mr. Brown gave a very interesting address concerning the work of the United States Department of Agriculture and offered his services as editor of America at Work for any publicity which the club was in a position to give. There were also present Messrs. C. L. Finch and Fred G. Smith of the Bureau of Agricultural Economics, Grain Standardization, of Chicago, Ill., writes Ernest R. Smith, chairman program publicity committee, for the club.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Publication Work

MEMORANDUM NO. 512.—1. Dr. Melvin C. Merrill is transferred from the position of director of research publications in the Forest Service to the division of publications, Office of the Secretary, as assistant director of publications, in charge of scientific and technical manuscripts. In this position, under the director of publications, Doctor Merrill will have charge of the editing and scheme of distribution of all of the scientific and technical publications of the department. He will cooperate with the director of scientific work and the scientific staff of the department to bring about the greatest efficiency and economy in the presentation of the progress and results of scientific work.

2. (a) In order that he may be able to devote more time to the associate direction of the work of the Bureau of Plant Industry, Dr. Karl F. Kellerman has asked that he be relieved from duty as a member of the committee on the Journal of Agricultural Research. Dr. C. L. Shear of the Bureau of Plant Industry, accordingly is appointed as a member of the committee to succeed Doctor Kellerman. Dr. E. W. Allen, who is at present a member of the committee, is appointed to succeed Doctor Kellerman as chairman. The present committee on the Journal of Agricultural Research therefore consists of Dr. E. W. Allen, Office of Experiment Stations, chairman; Dr. C. L. Marlatt, Bureau of Entomology; and Dr. C. L. Shear, Bureau of Plant Industry.

(b) The editorship of the Journal of Agricultural Research is transferred from the Bureau of Plant Industry to the division of publications, Office of the Secretary. The director of publications will arrange with the bureaus concerned for the proper budgeting of the expense incurred in editing the Journal if it is found that the entire expense can not be met from the funds of the publications branch.

(c) Manuscripts presented by the experiment stations will be approved by the journal committee appointed by the Association of Land Grant Colleges. Manuscripts presented from the several bureaus of the Department of Agriculture will be approved for publication by the Journal committee appointed by the Secretary of Agriculture, as in the past, but the final editing of all manu-

scripts will be handled in the division of publications.

3. (a) An advisory committee on policy with respect to all scientific publications of the department is hereby created, to consist of the director of scientific work, the director and assistant director of publications, and the three members of the committee on the Journal of Agricultural Research. This committee will advise the Secretary with respect to important matters of policy involving the scientific publications.

(b) A similar committee is created with respect to all extension publications, to consist of the director of extension work, the director of publications, and Dr. C. B. Smith and Mr. R. Brigham, of the Office of Extension Work.

(c) A similar committee is created with respect to all regulatory publications, to consist of the director of regulatory work, the director of publications, W. C. Henderson, Bureau of Biological Survey, and P. D. Cronin, of the Office of the Solicitor.

Federal Horticultural Board

MEMORANDUM NO. 513.—Dr. R. A. Oakley, senior agronomist in charge of new and rare field seed distribution, Bureau of Plant Industry is hereby appointed a member of the Federal Horticultural Board to fill the vacancy caused by the resignation of Dr. K. F. Kellerman.

The board, as now constituted, is as follows: C. L. Marlatt, chairman; George B. Sudworth, W. D. Hunter, M. B. Waite, R. A. Oakley, R. C. Althouse, assistant to chairman.

Fire Brigades

MEMORANDUM NO. 514.—In each building occupied by the department, except the temporary war buildings, one responsible employee will be designated by the chief of the bureau as fire captain. Where more than one bureau is represented in the same building, a fire captain will be selected by conference among chiefs. Each fire captain will organize a group of able-bodied employees in the building to take charge in case of fire occurring during office hours. The fire captain will designate certain persons to take station at the head of stair cases, at fire escapes and at the exits from the building to control and direct the departure of the employees from the building in orderly and expeditious manner. Other men will be designated to handle fire extinguishers and fixed hose in the buildings provided with such apparatus. It will be the duty of the fire captain to designate some member of his unit to see that the fire alarm connecting with the city fire department is pulled.

The captain of the watch and fire marshal, Hugh T. O'Neale, is authorized to bring together the fire unit in each building for purposes of consultation and instruction.

The fire captain in each building is charged with the duty of reporting to the marshal all changes in his unit due to resignation or other form of separation from the service, together with the name of the replacement man.

A quarterly report will be made to the chief clerk of the department showing the names of the men attached to each fire unit and their stations on the first day of the quarter.

A memorandum from the chief clerk's office states: "As part of a new parcel-post convention between the United States and Great Britain and northern Ireland, effective October 1, 1924, provision is made for the insurance of parcel-post packages."

SECRETARY HOLDS RECEPTION

It has been an annual custom in the department for the Secretary to hold an informal reception in his office for department people on the afternoon preceding the New Year. Following this traditional custom this year Secretary Gore issued an invitation to all department people to visit him in his offices last Wednesday, December 31, 1924. The invitation was broadcast by word of mouth throughout the various offices of the department late Wednesday forenoon, and although many were absent on annual leave during this holiday week, upwards of 1,000 people availed themselves of this opportunity to meet Secretary Gore personally and to exchange the season's greetings with him.

The visitors attended the reception assembled by groups according to bureaus, offices, or divisions of employment, informing the Secretary as they passed through the receiving line, their name and office of work. Secretary Gore shook hands with each and every one of the thousand or more and had a pleasant individual message and greeting for each.

A CORRECTION

In the December 31 issue of THE OFFICIAL RECORD an article dealing with the wide use of library material stated that the number of books and pamphlets loaned outside of Washington during the year was more than 15,000. The number should have read 1,500.

A home and its surroundings must be attractive in order to be most uplifting to the family, visitors, and passers-by. Farmsteads especially need attention in order to secure satisfactory conditions. The farm home and the farm business are so closely related that the success of the latter is reflected in the appearance of the former. "Beautifying the Farmstead," contributed by the Bureau of Plant Industry as Farmers' Bulletin 1087, makes many valuable suggestions and contains good illustrations of homes and their surroundings. It describes in detail the roads and walks; the home vegetable, fruit, and flower gardens; the lawns; and the ornamental plantings of trees and shrubs. This publication costs 10 cents.

Several large cases against wool dealers for the collection of excess profits made on wool during the war are expected to be reached for trial in Federal courts within the next few months.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Are precautions against clothes moths more important in the fall and winter as in the spring?

Answer. Precautions against clothes moths are more important in the spring than in the fall and winter, according to the Bureau of Entomology.

Question. Where can a home-economics worker find out what the Government has published on any given subject, such as nutrition, the use of pectin in jelly making, botulinas in canned foods, and the like?

Answer. If information is wanted on food and nutrition, a very convenient list is available, prepared particularly for the use of home economics and extension workers by the Bureau of Home Economics. This is called "Selected list of Government publications on foods and nutrition," and contains 165 citations, annotated and classified, according to subject. Over 2,500 copies of this list have been distributed by the bureau, which will continue to give the list to workers in home economics as long as the supply lasts. At the present time there is no similar list of publications dealing with phases of home economics other than foods and nutrition.

Question. Who spends more for clothing, the farmer and his son or his wife and daughter?

Answer. Contrary to the popular belief about the amount women as compared with men spend for clothing, figures from a survey of farm families in Livingston County, N. Y., show that the home maker spent on the average only \$2 more a year on clothing than did the farm operator. For boys up to 16 years of age costs exceeded those for girls in the same age groups and after that they ran about parallel. Even between 21 and 24 years, the peak of clothing expenditures, the women spent only \$6 more per year than did the men.

Question. Is the cost of grazing cattle on the national forests any less than on other forest ranges?

Answer. From a study conducted by the Forest Service during the past three years on the comparative cost of grazing cattle on national forests and other similar ranges, it has been determined that the average cost on forest range is about 72 cents per head per annum for cattle, compared to \$1.20 paid by stockmen for the same period on similar private lands.

The study of the Forest Service involved consideration of over 1,200 tracts of private land with a total acreage of nearly 9,500,000 acres. In addition to this acreage over 1,000,000 acres were considered which showed an average cost of 54 cents per head per month. The study further revealed that on over 400,000 acres of land owned and used by the owners for grazing purposes the carrying charges, including interest and taxes, amounted to \$1.02 per head per month.

POORLY BUILT FIREPLACE A MENACE

Of the mistakes commonly made in home building none is more frequent than faulty design and construction of chimneys and fireplaces. Though the use of the fireplace is one of the oldest methods of house heating, there are few who understand the principles of its action, and even experienced masons frequently fall into errors in building which seriously detract from the efficiency of the installation. No defect in the construction of the house detracts more from the comfort of the home and none is a greater menace to life and property than a poor chimney and fireplace. Bad chimney design is also the cause of much avoidable expense in heating the house. In order to give the householder and prospective builder a working knowledge of the principles to be observed in planning and building these important parts of the house the Bureau of Public Roads has contributed Farmers' Bulletin 1230, entitled "Chimneys and Fireplaces, How to Build Them." This publication costs 5 cents.

FARMERS INDORSE EXTENSION WORK

The farmer's attitude toward cooperative extension work is one of the interesting points brought out in recent studies made of typical farming areas in three of the four States in which surveys of the effectiveness of extension activities have been made by the Office of Cooperative Extension Work. Sixty-six per cent of the 3,405 farmers interviewed in New York, Colorado, and California indorsed extension work. Only 4 per cent, or 1 farmer out of every 25, was opposed to the system. Those who were not particularly interested in extension work, who might be classed as indifferent, totaled 24 per cent. In the case of 6 per cent no attitude was recorded.

On 74 per cent of the 3,954 farms studied in typical agricultural areas of the four States included in the survey, New York, Iowa, Colorado, and Cali-

fornia, an average of 3.4 new farm and home practices had been adopted as a result of extension effort, according to the information supplied by the farmers and farm women interviewed. These areas were in counties where extension work has been under way from 6 to 12 years. A home demonstration agent as well as a county agricultural agent has been employed in all of the counties from 2 to 8 years. In some of the counties a third agent, either a boys' and girls' club agent or an assistant county agent has been employed a part of the time. Every effort was made to choose an area which would be a true cross section of the county studied. Every farm within each area was visited and both the farmer and his wife interviewed. No information was obtained from residents of small villages or from those living in the open country who were not farm operators.

It is to be noted that, while the percentage of all the farmers interviewed on the subject who expressed themselves as favoring extension work is 66, there were 74 per cent who were taken actually applying some of its teachings in their farm or home work. This leaves 26 per cent still to be reached by the influence of the extension organization.

LIBRARIANS APPOINTED TO ROME

The International Institute of Agriculture at Rome has recently appointed a new librarian and assistant librarian, to take charge of its library work in January, 1925. By special arrangement, these appointments were made by the institute from candidates recommended by the Secretary of Agriculture, who delegated to the librarian of the department the task of obtaining the information to enable him to make the recommendations.

From among those recommended the permanent committee of the institute selected as librarian James G. Hodgson, formerly reference librarian of the University of Arizona, and as assistant librarian, Mlle. Denise Montel, formerly librarian of the Institut Colonial de Marseille. Mlle. Montel is familiar with American library methods, having taken last year the course in library science given at Simmons College, Boston. Mr. Hodgson is a graduate of the New York State Library School. The particular library project of the institute in which the United States is interested will require the services of the librarian for five years and the assistant librarian for three years, though there is a possibility that the appointments may be continued indefinitely by the permanent committee of the institute.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

ECONOMIC VALUE OF FORECASTS

The economic value of what is known as the shippers' forecast service of the Weather Bureau is almost impossible to estimate. During Secretary Meredith's administration figures were prepared by the various bureaus and offices of the department to show the proportion between the service rendered and the cost of the work. When inquiry was made among important shippers, transportation companies, commission houses, and others handling perishables, it was reported that in the Chicago district alone the special forecasts issued to shippers save annually from damage products valued at about \$10,000,000 reckoned on a carload basis, while in New York City a saving largely in excess of that amount was indicated.

This service is carried on at an expenditure of funds amounting to only a few thousand dollars. It operates most actively during the seasons when sudden drops in temperature may endanger perishable products in transit or being held at terminals. It is also needed during periods of extremely high temperatures in many places to advise shippers when extra refrigeration must be provided.

A special shipper's forecast card based on local weather reports is issued daily to certain large centers such as Philadelphia or Chicago, showing conditions in that district at 8 a. m. of the same day. Such a card may read "Shipments from Chicago to the northward should be protected against temperatures of -15° F." Merchants receiving this information will either pack protectively or withhold their shipment for a few days. In some States an express company that accepts perishables is responsible for their preservation in transit and will not accept them for shipment until a reassuring forecast has been obtained. While every newspaper carries the predictions of approaching cold waves and heavy frosts or snows, the special shippers' forecasts give further information as to the condition commodities may encounter en route to various destinations.

A service valuable in a similar way is performed for vessels on the Great Lakes. Stormy conditions frequently compel ships to make for shelter or remain tied up at docks. Delays of this character entail an economic loss of from

\$50 to \$100 per hour per vessel. Ignorance of the status and progress of such storms on the part of navigators leads to an embarrassing dilemma. To leave shelter too soon is to incur hazard of storm damage. To delay unnecessarily is to suffer needless per hour loss. The local Weather Bureau official steps in at this point and is able to broadcast advices to shipping which literally save many hours of ship's time with practically no losses in safety and security.

WITH EXTENSION FORCES

A RELAY CAMP FOR CLUB MEMBERS

Georgia club boys and girls came in relays this past summer for a camping vacation and short course at the new Camp Wilkins near the college of agriculture. So well was the new plan liked that attendance at the short course jumped to 1,193, when the average for the past three years had been about 400 each year.

Each group of boys or girls stayed in the camp a week. Mornings were devoted to instruction, afternoons and evenings to games, hikes, excursions over the college farm, picnics, sight-seeing trips and motion pictures. An especially beautiful woods back of the main camp building furnished a setting for the Wednesday night weiner roasts and many other good times. Friday night was always reserved for stunt night. By damming a near-by stream, an artificial lake had been formed, so that swimming was a feature of the supervised sport. The girls, who came to camp first, had the honor of christening the new body of water, which they named Lake Kirota, with fitting ceremony.

Two plans were followed for allotting camp weeks. Since the State is divided into four divisions for extension administration with a supervisor for each, the women agents decided to allot one week to each district. The only difficulty with this plan was that the attendance varied considerably with different weeks, making adjustments necessary in ordering supplies.

The men agents adopted the plan of allowing each county agent to select the week he preferred to bring his club boys to camp, making reservations in advance. When sufficient reservations to fill the camp for any one week were received, the remaining agents were notified and in some cases second choices were made.

It was necessary, since space had to be considered, to limit the number of boys or girls who could attend from

each county. This year each county was given the privilege of sending from a minimum of 5 up to a maximum of 20. The maximum limit may be raised later, due to the desire of many agents to give more of their club members this opportunity for recreation and education. Fifty-one counties were represented at the camp, this first year, by boys and sixty-three counties sent girl club members.

Unusual handicaps, naturally, attended this first season when equipment was new, some of it not completed, and plans were being tried out. The interest and hard work of all the extension workers, including the county and district agents, who assisted in classes, games, and all phases of camp life, made it so enjoyable and profitable to the young people attending, that effort is being made to conduct the camp for 10 weeks next summer.

U. S. D. A. CLUB OF LOS ANGELES

The U. S. D. A. Club of Los Angeles held its regular monthly luncheon and meeting on Tuesday, December 9, at which time officers for the ensuing year were elected, as follows: President, C. H. Beauchamp, district supervisor, Packers and Stockyards Administration; permanent vice president, Col. H. B. Hersey, in charge, Weather Bureau; secretary, Homer A. Harris, market reporter, Fruits and Vegetables, Bureau of Agricultural Economics. The following branches of the department were represented at the meeting: Fruits and Vegetables, Livestock and Meats, Weather Bureau, Public Roads, Chemistry, Entomology, Packers and Stockyards.

Tentative plans for the formation of a Government club to take in all branches of the Government were discussed and arrangements made to invite representative heads of the various branches to meet with the U. S. D. A. Club on January 13, the next regular meeting date, at which time it is hoped the proposed club can be organized.

For those who are interested in the one-register, warm-air, house-heating system, the Bureau of Public Roads has contributed Farmers' Bulletin 1174, "One-Register Furnaces." Here are discussed the principles and the advantages and disadvantages of that system, not for the purpose of recommending it in preference to others but to present the facts in order to assist the householder in selecting a heating system that will give the best service and most satisfaction for the money expended. This publication costs 5 cents.

BRIEF REVIEWS OF NEW BULLETINS

Stock-Poisoning Plants of the Range. By C. D. Marsh, physiologist, in charge of investigations of stock-poisoning plants, pathological division, Bureau of Animal Industry. Pp. 36, figs. 30, pls. 43. (Department Bulletin 1245.) Price, 35 cents.

It is well known that poisonous plants cause heavy losses of range animals. Statistics in regard to these losses are not available but from estimates made in many localities it seems probable that the average loss must be as great as 3 to 5 per cent, while in some range States it rises to much higher figures. The department has recognized the importance of these severe losses and has undertaken investigations and experiments to determine what plants were poisonous and under what conditions poisoning took place. This work is still in progress. Some very definite results have been obtained, however, and they are set forth in this bulletin. The bulletin has been prepared with special reference to the needs of livestock producers. It was realized that many stockmen are not botanists and might not recognize plants through a technical description. The bulletin has therefore been published with a great number of colored illustrations to assist in distinguishing the poison plants.

An Extension Program in Crop Production to Reinforce Range Livestock, Dairying, and Human Nutrition for the Western States. By W. A. Lloyd, regional agent in charge, western division, Office of Cooperative Extension Work. Pp. 16. December, 1924. (Department Circular 335.) Price, 5 cents.

In 1922 certain Western States, namely, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming, decided to hold a series of program-making and fact-organization conferences. The first of these conferences was held at Fort Collins, Colo., in November, 1923, at which tentative extension programs in range livestock, dairying, and human nutrition were adopted. Previous to this conference and in preparation for it, fact-organization committees in the above lines of work had been appointed by the various State colleges and by the U. S. Department of Agriculture.

The Fort Collins conference, after adopting the tentative programs, appointed standing committees on these subjects to review the work of the conference, report progress, and make suggestions for modification and procedure at future conferences. Farm crops, as a reinforcement of the program in range livestock, dairying, and human nutrition, was selected as the conference topic for the Western States extension conference, which was held at Tucson, Ariz., November 3 to 8, 1924. A regional crops committee was appointed to assemble facts and make recommendations at Tucson. During 1924 this committee confined its work to alfalfa, corn, and barley to reinforce the range livestock and dairy program, to home gardening and fruit to reinforce the human-nutrition program, and to potatoes and wheat as cash crops. Special crops committees were also appointed in most of the Western States agricultural colleges to organize the experiment station records relating to the subject.

The standing committees on range livestock, dairying, and human nutrition made comprehensive reports showing the extent to which the recommendations made at the Fort Collins conference had been adopted in the States and counties and made specific recommendations as to where the emphasis on these

projects should be placed in 1925. The Bureau of Agricultural Economics presented papers and accompanying facts bearing on the economic aspects of range livestock and dairying in the West with special reference to existing programs in these subjects, and also assembled and presented facts relating to diversification in the West, its limitations and possibilities.

The assembled data and the papers presented at the conference were referred in advance to appropriate committees, which brought in their reports. These reports were in turn referred to a coordinating committee, which considered the separate reports from the standpoint of their reinforcing one another.

This circular is the report of the coordinating committee.

The Control of Tomato Leaf-Spot. By Fred J. Pritchard, physiologist, and W. S. Porte, junior pathologist, Office of Cotton, Truck, and Forage Disease Investigations, Bureau of Plant Industry. Pp. 43, figs. 9. December 19, 1924. (Department Bulletin 1288.) Price, 10 cents.

Tomato leaf-spot, or blight, causes an average annual loss of approximately 250,000 tons of commercial tomatoes in the United States. The use of bordeaux or other copper-spray mixtures has given the most effective control of leaf-spot in the past, but the profits from spraying are variable and not always sufficient to justify the expense. A more effective and economical method of control lies in the use of modified field practices. This bulletin takes up the subject of the disease, its causes and symptoms, and various methods of control.

The Cow-Tester's Handbook. By J. C. McDowell, dairy husbandman, Bureau of Dairying. Pp. 22, figs. 6. November, 1924. (Miscellaneous Circular 26.) Price, 5 cents.

This handbook for cow testers will be of considerable value and help to the men engaged in the work of testing cows for production in cow-testing associations. Many cow testers are not especially trained for their particular work, but by following the suggestions of this handbook and the standard methods advised, they will make their records much more valuable to the dairymen, and also more useful in the various studies by the department based on such records. Every tester should have one of these handbooks; they are printed in a convenient size for carrying in the pocket. The handbook not only informs the tester just how to do his work in the most valuable way, but also informs the owner of the herd just what he can expect of the tester. A thorough knowledge of the duties of the tester by both the tester and the owner of the herd should aid materially in promoting harmony and better cooperation in cow testing work.

ADDITIONAL PUBLICATIONS

- Report of the Secretary of Agriculture, 1924. Pp. 96. Price, 10 cents.
- Report of the Chief of the Division of Accounts and Disbursements, 1924. Pp. 6.
- Report of the Chief of the Bureau of Agricultural Economics, 1924. Pp. 53.
- Report of the Chief of the Bureau of Animal Industry, 1924. Pp. 40.
- Report of the Chief of the Bureau of Biological Survey, 1924. Pp. 39.
- Report of the Chemist, 1924. Pp. 26.
- Report of the Entomologist, 1924. Pp. 30.
- Report of the Director of the Extension Service, 1924. Pp. 22.

- Report of the Federal Horticultural Board, 1924. Pp. 29.
- Report of the Director of the Fixed Nitrogen Research Laboratory, 1924. Pp. 5.
- Report of the Forester, 1924. Pp. 40.
- Report of Grain Futures Administration, 1924. Pp. 76.
- Report of the Chief of the Bureau of Home Economics, 1924. Pp. 5.
- Report of the Insecticide and Fungicide Board, 1924. Pp. 6.
- Report of the Librarian, 1924. Pp. 15.
- Report of the Chief of the Office of Experiment Stations, 1924. Pp. 16.
- Report of the Director of the Office of Publications, 1924. Pp. 14.
- Report of the Packers and Stockyards Administration, 1924. Pp. 32.
- Report of the Chief of the Bureau of Plant Industry, 1924. Pp. 46.
- Report of the Chief of the Bureau of Public Roads, 1924. Pp. 30.
- Report of the Chief of the Bureau of Soils, 1924. Pp. 13.
- Report of the Selector, 1924. Pp. 16.
- Report of the Chief of the Weather Bureau, 1924. Pp. 19.
- Service and Regulatory Announcements. (Bureau of Animal Industry.) No. 211. November, 1924. Pp. 119-124. December 24, 1924. Price, 5 cents.
- (Bureau of Chemistry.) No. 179. Notices of Judgment 12401-12450. Pp. 227-251. December, 1924. Price, 5 cents.
- (Bureau of Chemistry.) No. 180. Notices of Judgment 12451-12500. Pp. 253-277. December, 1924. Price, 9 cents.
- Soil Survey of Crenshaw County, Alabama. By J. F. Stroud, of the Alabama Department of Agriculture and Industries, and C. R. Schoenmann, Howard C. Smith, and C. E. Mendenhall, of the U. S. Department of Agriculture. Pp. 33, fig. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.
- Soil Survey of McCook County, South Dakota. By W. I. Watkins and C. E. Deardorff, of the U. S. Department of Agriculture, and J. A. Machlis and Glen W. Berry, of the South Dakota Agricultural Experiment Station. Pp. 21, fig. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.
- Soil Survey of Mississippi County, Missouri. By William De Young, of the University of Missouri, and Robert Wildermuth, of the U. S. Department of Agriculture. Pp. 32, figs. 2, map. (From F. O. Soils, 1921.) Price, 15 cents.
- Soil Survey of Union County, South Dakota. By J. A. Kerr and W. I. Watkins, of the U. S. Department of Agriculture, and W. H. Pierre and J. A. Machlis, of the South Dakota Agricultural Experiment Station. Pp. 36, fig. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.
- A Study of Farm Organization in Southwestern Minnesota. By J. A. Machlis, agriculturalist, agricultural experiment station, University of Minnesota, and Jesse W. Tapp, assistant agricultural economist, Bureau of Agricultural Economics. Pp. 100, figs. 30. December 12, 1924. (Department Bulletin 1271.) Price 15 cents.
- Experiment Station Record. Vol. 51, No. 7. November, 1924. Pp. 601-700. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscribers \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Service and Regulatory Announcements. (Bureau of Animal Industry.) No. 210. October, 1924. Pp. 109-118. December, 1924. Price, 5 cents.

— (Bureau of Chemistry.) No. 178. Notices of Judgment 12351-12400. Pp. 155-225. December, 1924. Price, 5 cents.

— (Insecticide and Fungicide Board.) No. 49. Notices of Judgment 926-950. Pp. 1127-1145. November, 1924. Price, 5 cents.

Germany is making rapid strides toward her pre-war meat production with the exception of pork, say reports to the department. For the first nine months of 1924, compared with the same periods of 1923 and 1913, beef production reached 86 per cent of pre-war, veal 101 per cent, and mutton 77 per cent. Swine slaughtering was only 59 per cent of pre-war but were 72 per cent greater than the same period last year.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Astruc, A. P. J. Les marchandises d'origine végétale et animale. Paris, Baillière, 1924.
Congrès des stations agronomiques et des laboratoires agricoles belges, Brussels, 1923. Compte rendu. Louvain, F. Ceuterick, 1923.
Schmidt, G. A. New methods in teaching vocational agriculture. New York, Century co., 1924.

DOMESTIC ANIMALS

Hansen, Johannes. Lehrbuch der rinderzucht. 2. und 3. Aufl. Berlin, P. Parey, 1922.
Meyer, Enno. The shepherd or police dog. Cincinnati, Sportsman's digest publishing co., 1924.

COOKERY

Nesbitt, Florence. Low cost cooking. Chicago, American school of home economics, 1924.

CHEMISTRY

Aston, F. W. Isotopes. 2d ed. New York, Longmans, Green, 1924.
Wood, T. B. The chemistry of crop production. 2d ed. London, W. B. Clive, 1924.

PHYSIOLOGY

Bachmann, George, and Bliss, A. R. The essentials of physiology including the pharmacodynamics of the important typical drugs. Philadelphia, Blakiston, 1924.
Medical research council (Gt. Brit.) The katabolism in studies of body heat and efficiency. London, 1923. (Special report series, no. 73.)

PHYSICS AND MATHEMATICS

Duff, A. W. A text-book of physics. 5th ed. Philadelphia, Blakiston, 1921.
Silberstein, Ludwik. Synopsis of applicable mathematics with tables. New York, Van Nostrand, 1923.

ENGINEERING

Southern Appalachian water power conference. Proceedings. 1st-2d. Knoxville, Tenn., 1922-23.

BOTANY AND FORESTRY

Ellsworth, R. S. The giant sequoia. Oakland, Cal., J. D. Berger, 1924.
Ridley, H. N. The flora of the Malay Peninsula. v. 4. London, L. Reeve, 1924.
Robbins, W. W. The botany of crop plants. 2d ed. Philadelphia, Blakiston, 1924.

TEXTILES

Baldt, L. I. Clothing for women. Philadelphia, Lippincott, 1923.
Dumville, J., and Kershaw, S. The worsted industry. London, Sir I. Pitman & sons, 1924.

ECONOMICS

Conference on unemployment, Washington, D. C., 1921. Committee on seasonal operation in the construction industries. Seasonal operation in the construction industries. The facts and remedies. New York, McGraw-Hill, 1924.

GEOGRAPHY

Sellards, E. H., Tharp, B. C., and Hill, R. T. Investigation on the Red River made in connection with the Oklahoma-Texas boundary suit. Austin, 1923. (University of Texas bulletin, no. 2327.)

CIVIL SERVICE ANNOUNCEMENTS

Specialist in cotton classing, \$3,800; associate specialist in cotton classing, \$3,000. A vacancy in the Bureau of Agricultural Economics, for duty at New York, N. Y., and vacancies in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$5,000 a year for specialist in cotton classing and up

to \$3,600 a year for associate specialist in cotton classing. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes January 27, 1925.

Assistant home economics specialist (textiles and clothing), \$2,400. Vacancies in the Bureau of Home Economics, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes January 27, 1925.

Assistant entomologist, \$2,400. Vacancies in the Bureau of Entomology, for duty in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes January 27, 1925.

FOUR NEW FILMS COMPLETED

Four new agricultural motion pictures which have been completed by the Office of Motion Pictures in cooperation with the various bureaus were shown Monday, January 5, before a representative audience of department people interested in these particular films for final approval before being released. Two single-reel pictures and two two-reel pictures comprised the new offering.

"Laying Lumbricus Low," one of the single reels shown, is a Bureau of Plant Industry picture dealing with the damage caused by earthworms (*lumbricus terrestris*) to lawns and golf putting greens shows how the home owners and golfers learned the proper methods of control from the Department of Agriculture and applied them with good results.

Another one-reel picture shown was, "Hog Breeds and Hog Management," a Bureau of Animal Industry film showing animals representing the various breeds of swine, both the bacon and the lard types. The picture is of particular interest to swine raisers because it shows some of the fundamentals of good swine husbandry, but is of general interest also because it shows the importance of the swine industry in this country.

Another Bureau of Animal Industry picture is one called "Suppressing Foot-and-Mouth Disease." The picture shows the prevalence of the disease in many foreign countries; outbreaks of the malady in this country in 1914 and 1924; the radical but effective American method of control, and necessity of public cooperation. This picture is particularly for owners of livestock, but of considerable general interest as well.

A film designed by the Bureau of Agricultural Economics particularly for members of cotton-marketing associations of the South shows the progress of the grower's bale from the gin to the mill, or to the seaboard for export shipment. This film is called "Cooperative Marketing—Cotton."

Foot-and-Mouth Leader Lauds

"Men Who Wore the Rubber"

(Continued from page 1)

because they were required to wear rubber outer garments while engaged in field work. Clothed in this manner, they worked under the most trying circumstances and conditions of weather and temperature and long hours. There were approximately 200 Federal men assembled in California from various stations in other States, and nearly as many State men, and it is to these field men that a great amount of credit should be given for the success in accomplishing the task in California. We have received many compliments and expressions of appreciation from various sources on our success, but 'the men who wore the rubber' deserve the most credit.

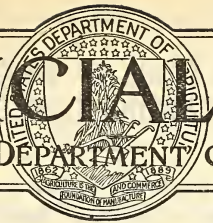
"I deem it an honor," continued Doctor Houck, "to have worked in this outbreak with such broad-minded men as Gov. Friend Richardson and Hon. G. H. Hecke, director of agriculture. Their attitude at all times was staunch and unflinching, and the best of cooperation existed continuously between the Federal and State forces."

Shortly after the disease was discovered in Merced and Los Angeles Counties, a committee was sent to Washington to request of the Secretary that the department take complete charge of eradicating the outbreak in California. Doctor Houck, who had participated in eradicating the outbreaks of 1902, 1908, and 1914, and who had already been sent to California as the personal representative of Secretary Wallace, was detailed to take charge in California. His headquarters were established at Sacramento on April 24, and from there he directed the combined Federal and State forces until his recent return to department headquarters.

Doctor Houck expressed his pleasure at being able to return to Washington because the situation in California is such that his services are no longer needed there. Dr. Rudolph Snyder, with Dr. W. C. Herrold, as assistant, was left in charge of the work in California. These men will watch for any further developments, although nothing serious is anticipated.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JANUARY 14, 1925

No. 2

APPROPRIATION BILL IS PASSED BY SENATE

Annual Appropriation Measure Approved—Action Taken on Other Legislation

The agricultural appropriation bill for the fiscal year 1926, carrying a total of \$124,906,788, was passed by the Senate on January 7. This figure is exclusive of \$12,340,750 covered by special, permanent, and indefinite appropriations, which brings the total budget of the department, including the \$80,000,000 for roads, up to \$137,247,538. The bill as passed by the Senate shows an increase of \$243,315 over the bill as passed by the House. An analysis of the bill as presented to Congress was given in *THE OFFICIAL RECORD* for December 10 and of the bill as it passed the House in the *RECORD* for December 17.

The amount provided by the bill for the regular work of the department is \$42,746,788, an increase of \$780,792 over 1925 appropriations for similar purposes. The Senate committee increases are as follows:

Bureau of Plant Industry—Forest pathology, \$2,095; cereal investigations, \$19,340. Bureau of Soils—Soil chemical investigations, \$5,000; soil physical investigations, \$2,000. Bureau of Entomology—Forest insects, \$1,410. Bureau of Agricultural Economics—Marketing and distributing farm products, \$8,123; market news service, \$90,252.

Increases Are Provided

The amendment made by the House to the paragraph for mammal and bird reservations, under the Bureau of Biological Survey, providing an appropriation of \$12,000 for the construction of a highway through Sullys Hill National Park, was eliminated by the Senate committee, but \$8,785 of the \$12,000 added by the House was retained in the bill, to be used for the construction of a fence

and for road repairs on the National Bison Range, Montana.

During consideration of the bill in the Senate further increases, amounting to \$118,310, were made through floor amendments, including \$8,310 to the appropriation for Bureau of Animal Industry for meat inspection; \$15,000 to the Bureau of Plant Industry—\$10,000 for sugar plant investigations, to be used for the introduction from Russia and testing of white-fly resistant sugar beets, and \$5,000 for pomological investigations, to be used for the investigation of apple-handling problems in Virginia; \$75,000 to the Forest Service—\$50,000 for cooperation with the War Department in the maintenance of an airplane patrol to prevent and suppress fires on the national forests, and \$25,000 for the construction of sanitary facilities on public camp grounds within the national forests; and \$20,000 to the Bureau of Chemistry, for the enforcement of the naval stores act.

The Senate bill also retains the clause limiting the amount which may be expended for personal services in the District of Columbia which was inserted after the total appropriation figure for each bureau. In a few cases the amounts were raised proportionately to the increases allowed by the Senate committee, the limitation for the Bureau of Plant Industry being increased \$2,816; for the Bureau of Soils, \$6,290; Bureau of Entomology, \$3,000; and Bureau of Agricultural Economics, \$10,625.

Provide For Forest Roads

In addition to the appropriation of \$4,000,000 provided for forest roads and trails by the House bill, the Senate bill provides for the apportionment to the States of \$7,500,000 for the same purpose. This action was doubtless taken in anticipation of the passage of H. R. 4971, which has already passed the House and which carries an authorization for the appropriation of \$7,500,000 for the fiscal year 1926 and a like amount for the fiscal year 1927.

Packer Control Bill Considered

Administration of the packers and stockyards act of 1921 could be trans-

(Continued on page 8)

CONFERENCE ON FARM PROBLEM RECONVENES

Commission Gives Immediate Attention to Cattle Industry Cooperation

Members of the agricultural conference reconvened in Washington on January 5 and immediately set out on an intensive investigation of the emergency in the cattle industry and the subject of cooperative marketing with the hope of making recommendations to the President by the latter part of January. During the six weeks recess members of the committee studied these and other subjects which have been adopted as a part of the program.

Some interesting sidelights on the individual members of the commission and certain phases of their experience have been the subject of interesting comment during the past few days. The chairman of the conference, Robert D. Carey, of Wyoming, has spent most of the past 25 years in agricultural and livestock pursuits. He possesses the first registered cattle brand in his State and is president of a company which owns the largest herd of registered Hereford cattle in the United States. He served as Governor of Wyoming from 1919 until 1923 and during his administration several important agricultural laws were enacted.

Bradfute Has Long Record

O. E. Bradfute, president of the American Farm Bureau Federation, probably holds the record among the members of the commission for length of public service to agriculture. For several years he was on the board of control of the Ohio Experiment Station and for 20 years has been a trustee of Ohio State University. For 27 years he was a breeder and exhibitor of purebred Aberdeen-Angus cattle and produced some of the most notable animals of this breed in America. Further than this he was a member of the committee of nine that

organized the International Livestock Exposition more than 25 years ago and still serves in this body.

Dr. William M. Jardine, president of the Kansas State Agricultural College, was a cattle rancher in Idaho and Montana until 20 years of age, when he entered college. In 1906 he came to the department to fill the position of assistant United States cerealist in charge of grain work in the western half of the country. He later returned to the Kansas Agricultural College and became its president in 1918.

R. W. Thatcher, director of the New York Agricultural Experiment Station at Geneva, has spent a lifetime in agricultural experiment station and chemistry work in different parts of the country. After graduating from the Nebraska College of Agriculture he went to the State of Washington, where he was made director of experiment stations. In 1913 he was called to the University of Minnesota, where later he held the position of dean of the agricultural department and head of the experiment station. His next move was across the eastern half of the country to head up the experimental work in New York.

Raises Many Kinds of Crops

C. S. Barrett is now serving his twentieth year as president of the National Farmers' Union. Besides this office he is also chairman of the National Board of Farm Organization, and during his life has held responsible positions in work associated with agriculture. The boast is made by friends of Mr. Barrett that he produces more kinds of farm products than any other man in the country. He operates six farms from the Blue Ridge Mountains to Florida.

Ralph Merritt, president and managing director of the Sun Maid Raisin Growers of California, is the next member on the commission. During the war he was appointed by the President as Federal food administrator of California and headed up other responsible work during this period. After the war he returned to farming, developing large properties in California. It was in 1923 that he assumed his present position and was responsible for a reorganization of the raisin industry. To-day the Sun Maid Raisin Growers represent the largest cooperative marketing organization in the world which markets its own product under its own brand through its own world-wide selling agencies.

Specialized In Sheep

W. C. Coffey, dean of the College of Agriculture, University of Minnesota, has spent a lifetime in close association with the livestock industry. He has

(Continued on page 8)

HIGH PRICE OF WHEAT CAUSING COMPLAINT

World Conditions Reason for High Price—Charges of Speculation Unwarranted

Improvement in the farm and market price of wheat during the last six months is beginning to cause comment and complaint. It is not too much to say that this is unwarranted. For four years the wheat grower has been staggering under a load of distress. Depression and deflation have driven hundreds of thousands of wheat growers from the land. The complaints, generally speaking, rest upon the misapprehension that speculation has driven the price up unduly in the United States and hence that the United States price must be above a parity with the rest of the world.

The responsible agencies of the department are in constant touch with the conditions of supply and demand, not only at home but abroad. Prices in a broad sense are the result of the expert opinion of the world either as to the supply available until a new crop is received or as to the estimated quantity that will become available if the crops have not been harvested.

The 1924 Wheat Situation

The 1924 wheat situation in the United States presents a remarkable combination of circumstances. Last May wheat prices began to rise. The United States had reduced her acreage; Canada had reduced her acreage; the whole Northern Hemisphere had planted 10 per cent or 12 per cent less than for 1923. May was a very unfavorable month for crop growth both in the United States and Canada. After June, except in the United States, the condition of the wheat crops of the world showed progressive deterioration. Naturally and inevitably, expert opinion concluded that prices would rise as they necessarily did. Each succeeding crop report advised of deterioration in the various parts of the world. Even as late as November the Canadian crop estimates, issued by the Dominion Bureau of Statistics, took off 20,000,000 bushels from the previous figures. Australia reported damage due to weather conditions. Argentina forecasted a crop over 55,000,000 bushels below 1923. The Bulgarian, French, English, and other crops were reported short. And last, but not least, the Canadian export surplus, which for 1923 was

roughly 375,000,000 bushels, was reduced to 175,000,000 bushels.

United States Alone Produced Good Crop

The sum of the whole matter was that the slight but progressive improvement in the United States crop gave us alone of all of the producing and consuming countries a good crop, while generally throughout the rest of the world there was a shortage of bread grains. While our crop was a good crop it was not a bumper crop by any means; in fact, it was 25,000,000 bushels below the five-year average and was only about 70,000,000 bushels more than the small but disastrously low-priced crop of 1923.

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organized the International Livestock Exposition more than 25 years ago and still serves in this body.

Dr. William M. Jardine, president of the Kansas State Agricultural College, was a cattle rancher in Idaho and Montana until 20 years of age, when he entered college. In 1906 he came to the department to fill the position of assistant United States cerealist in charge of grain work in the western half of the country. He later returned to the Kansas Agricultural College and became its president in 1918.

R. W. Thatcher, director of the New York Agricultural Experiment Station at Geneva, has spent a lifetime in agricultural experiment station and chemistry work in different parts of the country. After graduating from the Nebraska College of Agriculture he went to the State of Washington, where he was made director of experiment stations. In 1918 he was called to the University of Minnesota, where later he held the position of dean of the agricultural department and head of the experiment station. His next move was across the eastern half of the country to head up the experimental work in New York.

Raises Many Kinds of Crops

C. S. Barrett is now serving his twentieth year as president of the National Farmers' Union. Besides this office he is also chairman of the National Board of Farm Organization, and during his life has held responsible positions in work associated with agriculture. The boast is made by friends of Mr. Barrett that he produces more kinds of farm products than any other man in the country. He operates six farms from the Blue Ridge Mountains to Florida.

Ralph Merritt, president and managing director of the Sun Maid Raisin Growers of California, is the next member on the commission. During the war he was appointed by the President as Federal food administrator of California and headed up other responsible work during this period. After the war he returned to farming, developing large properties in California. It was in 1923 that he assumed his present position and was responsible for a reorganization of the raisin industry. To-day the Sun Maid Raisin Growers represent the largest cooperative marketing organization in the world which markets its own product under its own brand through its own world-wide selling agencies.

Specialized In Sheep

W. C. Coffey, dean of the College of Agriculture, University of Minnesota, has spent a lifetime in close association with the livestock industry. He has

(Continued on page 8)

HIGH PRICE OF WHEAT CAUSING COMPLAINT

World Conditions Reason for High Price—Charges of Speculation Unwarranted

Improvement in the farm and market price of wheat during the last six months is beginning to cause comment and complaint. It is not too much to say that this is unwarranted. For four years the wheat grower has been staggering under a load of distress. Depression and deflation have driven hundreds of thousands of wheat growers from the land. The complaints, generally speaking, rest upon the misapprehension that speculation has driven the price up unduly in the United States and hence that the United States price must be above a parity with the rest of the world.

The responsible agencies of the department are in constant touch with the conditions of supply and demand, not only at home but abroad. Prices in a broad sense are the result of the expert opinion of the world either as to the supply available until a new crop is received or as to the estimated quantity that will become available if the crops have not been harvested.

The 1924 Wheat Situation

The 1924 wheat situation in the United States presents a remarkable combination of circumstances. Last May wheat prices began to rise. The United States had reduced her acreage; Canada had reduced her acreage; the whole Northern Hemisphere had planted 10 per cent or 12 per cent less than for 1923. May was a very unfavorable month for crop growth both in the United States and Canada. After June, except in the United States, the condition of the wheat crops of the world showed progressive deterioration. Naturally and inevitably, expert opinion concluded that prices would rise as they necessarily did. Each succeeding crop report advised of deterioration in the various parts of the world. Even as late as November the Canadian crop estimates, issued by the Dominion Bureau of Statistics, took off 20,000,000 bushels from the previous figures. Australia reported damage due to weather conditions. Argentina forecasted a crop over 55,000,000 bushels below 1923. The Bulgarian, French, English, and other crops were reported short. And last, but not least, the Canadian export surplus, which for 1923 was

roughly 375,000,000 bushels, was reduced to 175,000,000 bushels.

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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

Published every Wednesday at
WASHINGTON, D. C.

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THE TURN OF THE YEAR

The passing of 1924 marks another milestone on a slow, uphill road, says the department in reporting the agricultural situation for January 1, 1925. Those great forces that distribute rain and sunshine took a hand this time with telling effect. Production is larger than in 1923, though acreage was smaller. The farm value of the 1924 crops was approximately \$9,500,000,000, compared with \$8,727,000,000 the previous year, and \$7,816,000,000 two years previous.

Nothing in the production situation has occurred since 1920 of such significance as this season's short corn crop. The really great surpluses overhanging agricultural markets are surpluses stored on the hoof—stored in the millions of beef cattle and dairy stock. Beef cattle have had the lowest purchasing power this fall since pre-war times. The short corn crop will have its effect on the country's animal industries for two years and perhaps longer, a harsh but powerful reducer. It is already pressing sharply on hogs. For corn is to livestock what coal is to urban industry.

The largest cash gains of the year have gone to the Wheat Belt, where they were sorely needed. The Cotton Belt has again produced a one and one-half billion dollar crop. Agriculture as a whole has come nearest to "balancing its budget" since 1920; that is, meeting the year's chief expenses out of current income. It has made some gains aside from those in immediate income since price ratios are not quite so sharply against it.

But how far 1924 has cleared up the basic situation is yet unknown. The cities are still enjoying a special brand of prosperity, originating in replacement of their own war-time shortages. The railroads and all their thousands of workers are also enjoying prosperity. Most farmers are still hanging on by the skin of their teeth, paying debts as they can. That part of agriculture's handicap which arises from the disparity between city and country may have been leveled

out somewhat in the last year. Its more basic difficulty is that farmers are still burdened with debt and fixed charges which go with deflation and violent change in the price level.

So the turn of the year finds farming a little further along as to adjustments within itself. As for those factors that tend to shape agriculture from without, three suggestions for public policy appear most often in the expression of farmers all over the country: (1) That the public services which tend to promote sound cooperative marketing should be vigorously strengthened; (2) that the farm burden of taxes needs serious consideration; (3) that freight rates can be reduced.

Statistics Show 94 Tornadoes Every Year in United States

With the year 1916 the Weather Bureau resumed the systematic collection of tornado statistics for the entire country. The results for an eight-year period can now be compared with the conclusions reached by Finley, about 40 years ago, and by Henry, more than 25 years ago.

In the entire country, from 1916 to 1923, there were 752 storms classified as tornadoes, an average of 94 a year. The annual count was greatest in 1917, with 121, while 64 was the smallest total for a year. The average number per year is considerably larger than found by Finley and Henry, many years ago, probably because of better news-gathering facilities.

Among the States, for 1916 to 1923, Arkansas leads in number, with 76; afterwards come, in order, Kansas, Texas, Iowa, Missouri, and Oklahoma; no other State counted as many as 50. The greatest number in a single year is in Arkansas, 32 in 1916. In just eight States there seem to have been no tornadoes during this eight-year period.

However, 10 States that were visited by tornadoes once or oftener had no loss of life, and in 11 more the loss of life was less than 10. The greatest loss of life in the whole period in one State was 257, in Mississippi, with Arkansas next, and Alabama third. The aggregate loss of life from tornadoes in the eight-year period was 1,929; these deaths were the work of slightly less than one-third of the tornadoes, and only one tornado in fourteen took 10 or more lives, while only one tornado, occurring in Illinois and Indiana, caused as many as 100 fatalities, and that one but 103.

The total damage to property reported as due to these tornadoes was in excess of \$62,000,000, an average of not quite eight millions per year. Of the whole amount, 1917 had almost a quarter, and

1920 only a trifle less. Among the States Illinois reports the largest aggregate, more than \$7,500,000; Indiana appears next, with almost exactly \$5,000,000, while Minnesota and Iowa come soon afterwards. The largest property loss from a single tornado was in Minnesota, \$3,500,000, in and near Fergus Falls, during June, 1919.

DR. WILLIAM T. CONWAY DIES

Dr. William T. Conway, inspector in charge of the station of the Bureau of Animal Industry at St. Louis, Mo., died at his home in that city January 1, 1925, at the age of 46 years.

Doctor Conway entered the service of the bureau as an assistant veterinary inspector in 1903. His first years of service were at the stations at National Stock Yards, Ill., and St. Louis, Mo. His later assignments and advancements were to the position of inspector in charge at Morristown, Tenn., New Haven, Conn., Pittsburgh, Pa., and St. Louis, Mo., in the order named. Doctor Conway was a studious and able inspector and won the confidence and respect of all his associates in the service. The bureau deeply deplores its loss and extends its sincere sympathy to the bereaved family.

FOREST ROAD AND TRAIL CONSTRUCTION

The national forest section of the annual report on roads and trails as required by the Federal highway act of November 9, 1921, has been completed. This report shows that to July 1, 1924, there has been made available \$42,570,409.68 for forest roads and trails; of this amount \$4,070,409.68 is the 10 per cent fund, the remainder consisting of appropriations made by Congress since 1916.

The total expenditure for forest roads and trails was \$43,990,014, which includes \$10,396,664 contributed by local co-operators. With this amount, 8,707 miles of roads and 15,875 miles of trails were constructed; while 8,897 miles of roads and 33,849 miles of trails were maintained. During the fiscal year 1924, 1,857 miles of roads and 4,805 miles of trails were constructed, and 7,423 miles of roads and 32,104 miles of trails were maintained at a total expenditure of \$11,560,103. Of this total, \$2,067,945 consisted of cooperative funds. The highest average cost per mile for road construction in that year was \$24.951.

The average cost of the 4,805 miles of trails constructed in the past fiscal year was \$198 per mile, representing a total cost of \$952,784. The average cost of all trails constructed to July 1, 1924, was \$230 per mile.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How long can canned goods be kept without spoiling or deteriorating? How can you tell that canned food is fit to eat?

Answer. Assuming that they have been properly cooked and sealed, canned foods differ markedly in the amount of chemical change that is inherent in the products and in the amount of corrosive action upon the container. It is therefore impossible to fix a general time limit to their period of fitness for consumption. In general, canned food is fit for consumption as long as a critical examination of the product fails to disclose some type of spoilage: This may be a short time or a number of years, according to the product. A swelled or leaky can indicates possible fermentation or spoilage. On opening the can the odor should be characteristic of the product and the contents should appear free from mold, disintegration and cloudiness. No discoloration of the product should be apparent and the inside of the can should be clean and bright, or well lacquered, not markedly corroded. If there is a doubt as to whether the food is spoiled, add half the volume of boiling water and boil thoroughly. If you are sure the food is spoiled, discard it.

Question. Does the Biological Survey favor hawk campaigns?

Answer. The Biological Survey has taken a firm stand against the indiscriminate destruction of hawks. In campaigns against these birds frequently no distinction is made between the comparatively few species that are injurious and the many that are beneficial. The latter are of inestimable value to the farmer because of their destruction of rodent and insect pests. Of the outlawed species only two, the Cooper and sharp-shinned hawks, can be considered at all common throughout the United States.

Question. Is there such a thing as "ball lightning"?

Answer. Although science is not yet able to explain ball lightning, and all attempts to reproduce it in the laboratory have thus far failed, its existence is generally admitted by scientific men, and quite a large fund of knowledge has been gathered concerning its characteristics. A recent German work on the

subject, by Dr. Walther Brand, contains a detailed analysis of 215 cases of its occurrence, these reports having been selected as particularly trustworthy from a much larger number available. According to this writer, there are two distinct types of ball lightning. One type floats freely through the air, while the other moves along terrestrial objects as if attached to them. Ball lightning occurs during thunderstorms, and in some cases its appearance is preceded by an ordinary flash of lightning. Ball lightning is generally only a few inches in diameter, and in the majority of cases remains visible only a few seconds, though it has been known to last for several minutes.

Question. Are pistache nuts grown in America on a commercial scale?

Answer. Pistache nuts have been grown experimentally by the Bureau of Plant Industry for over 10 years, but since the varieties grown in the Mediterranean region do not split properly when grown in California the industry does not appear to be a promising one. However, certain new varieties of Persian origin have been grown, which split perfectly and, furthermore, give large yields and observations made by the bureau during the past year indicate that with these new varieties the pistache nuts present commercial possibilities. These varieties will be tested in certain districts in California, Nevada, Utah, Arizona, New Mexico, and Texas having favorable soil and climate.

HIGH PRICE OF WHEAT CAUSING COMPLAINT

(Continued from page 2)

the charge is made that Chicago prices are higher than Liverpool prices. The exact opposite is the case. On a recent date when the December future price in Chicago was \$1.52, in Kansas City it was \$1.44, while the price in Liverpool was \$1.77. That speculation, at least in this particular situation, is not unduly burdening city consumers may be concluded from the fact that on December 29 May wheat was selling at Winnipeg for delivery from elevators at Fort William at about \$1.87 per bushel, while comparable wheat at Minneapolis was about \$1.75 and the contract grade No. 2 Hard at Kansas City was \$1.71. The superficial inference from these figures is that the American price is too low and not too high as is charged.

Exports on an unusual scale play their part in the situation. During the six months from July to December our ex-

ports of wheat were over 197,000,000 bushels. During the same period in 1923 our exports were only about 81,000,000 bushels. In other words, although the 1924 crop was only 70,000,000 bushels greater than 1923, exports are already 116,000,000 bushels greater for identical periods.

It is of course inherent in our wheat grower's situation that circumstances force him to market immediately or soon after harvest. Based on a nine-year average estimate, nearly 70 per cent of the wheat crop leaves the farm in the five months from July to November, inclusive. May is the high price month of the year. It is also the month of lowest marketings. To enable growers to benefit more largely from the high-priced period of the year and from years when high prices prevail generally, we need greater ability on the farmer's part to store on the farm or to hold at terminals, when economic conditions indicate the desirability of such a course. Habit, stress, our whole marketing system, result in rushing the whole crop to market no matter what range of prices prevails.

Department Protects Interests of Public

Those who have felt concerned regarding the situation have charged the department with failure to enforce the United States Grain Futures Act. These charges must necessarily be based upon a misunderstanding of the actual facts. The Grain Futures Administration of this department has competent investigators daily on the floors of the important grain futures exchanges. In addition it receives reports daily showing the outstanding interests of all firms. No information in the possession of its market supervisors gives ground for alarm that the essential bread grain of the United States is being made the subject of vicious and harmful speculation. Nevertheless, if citizens have information or evidence warranting investigation the department is always ready to proceed promptly within its powers to protect the genuine interests of the public, both consumer and producer.

Recognition of the value of cooperative extension work with negro farm families is evidenced in the inclusion of an item for a farm extension agent in the budget and report recently submitted by J. R. E. Lee, president of Florida Agricultural and Mechanical College for Negroes, Tallahassee, to the board of control. The report states that need is felt for a farm extension agent who would work directly from the school to enable the school to extend the benefits of its teaching in farming and home making to the farms in the surrounding counties.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

HEAT SAVES TIME IN PLANT GROWTH

The saving of a year's time in the reproduction cycle of plants is quite an item. Propagating citrus plants by means of rooted cuttings has a number of distinct advantages, not the least of which is the fact that such cuttings can be brought to a size large enough for budding in a year less time than is required for seedlings of the same group. This saving of time in the propagation of citrus fruits is made possible by the development by the Bureau of Plant Industry of a propagating frame of simple construction, which uses sunlight to furnish bottom heat.

The propagation of plants by the use of cuttings is one of the oldest methods known. It is, in fact, almost the only method used with some important groups of plants, but it is not used so much with others, partly because it is more difficult than to produce new plants from the seed. Many plants commonly supposed not to root from cuttings are readily propagated in this way, however, if the right kind of cuttings is selected and given the right treatment. Recently more attention has been given to this method of propagation, particularly of fruit-tree stocks, in order to secure more uniformity in fruit varieties than ordinarily results from the use of unselected seedlings.

In the citrus group there is still another reason for using cuttings rather than seedlings. Some of the recently created citrus hybrids possess special merit as stocks but they are few seeded or even almost seedless. Because of this scarcity of seed and also the fact that some of these hybrid seedlings neither come true from seed, nor make the rapid growth desired, vegetative propagation is more desirable. Until recently it was necessary for the best results to carry on such rooting work in well-equipped greenhouses using steam coils to supply the bottom heat. The lack of such equipment and the expense of providing it seemed serious objections to any widespread use of certain methods in selecting and handling cuttings devised in the bureau, notwithstanding the saving of time and the uniformity secured by vegetative propagation. The use of steam heat also made it necessary to do most of the rooting work in the cooler months of the year, largely necessitating

almost complete suspension of this work in the summer.

The difficulty was overcome by the development of the solar propagating frame which uses sunlight for bottom heat instead of steam. This equipment is the result of adaptations made from a similar frame first put into use by a horticulturist of the department at the Hawaii Experiment Station in 1920. This method has a wide application in horticulture and is already being adopted by commercial nurseries not only for citrus but for many other plants. Careful comparisons of the root systems produced on rooted cuttings in the frame show that they are in no way inferior to seedling root systems, and the rooted cuttings can be grown to the required size for budding in a year less time than can be seedlings. This time factor alone would more than compensate for the expense involved in providing the solar propagating frame, the development of which may be regarded as a distinct accomplishment by the Bureau of Plant Industry.

WITH EXTENSION FORCES

AGENT DEMONSTRATES POISON PLANTS

Death of a number of dairy cattle belonging to a Wayne County, Ind., farmer, shortly after they were turned into woodland pasture was thought at first to be due to septicemia. However, on using the pasture again, 14 registered Jerseys died within a week and the farmer decided the trouble might be in the pasture.

The assistance of County Agent H. R. Hoffer was requested and he at once arranged to have the farm examined for the presence of poisonous plants by A. A. Hansen, associate in weed control, of the State extension staff. Mr. Hansen found large masses of white snakeroot which causes trembles in animals and poisons the milk of dairy cows eating it, causing in turn milk sickness in man.

Looking further, much more white snakeroot was found in the community and plans were quickly made for a field meeting to acquaint the farmers with the plant and its dangerous effects, as it was not regarded with suspicion in the neighborhood.

Nineteen farmers attended this meeting, held in the woods pasture where the recent trouble had occurred. Means of identifying white snakeroot were demonstrated and symptoms of milk sickness and trembles were discussed. Several farmers attending, it was learned,

had suffered from milk sickness, two neighbors had died of it in 1916, and practically all present had experienced loss of livestock from forage poisoning, presumably caused by white snakeroot as it was found in large quantity on subsequent visits to their farms.

The matter was considered so important to the welfare of the community that those attending this field meeting wished to have the poisonous properties of the plant demonstrated locally in order to convince other farmers, many of whom were openly skeptical of its dangerous effects. A feeding demonstration was accordingly arranged with a local committee in charge.

A healthy ewe was purchased by the county extension organization for the demonstration. A number of farmers met at the farm selected and saw the animal fed the white snakeroot. After eating about three pounds, it developed a typical case of trembles. Ten days later it died.

There was no more doubt in the minds of Wayne County farmers as to the objectionable qualities of the plant after this demonstration. The subject was discussed at many township farmers' meetings, the local newspapers gave it wide publicity, other surveys were requested and made, and farmers with land infested have pulled the plants by hand or fenced off the areas from livestock.

EASTERN EXTENSION WORKERS TO CONFER

M. S. McDowell, director of Pennsylvania agricultural extension service, State College, Pa., and B. W. Ellis, director of Connecticut agricultural extension service, Storrs, Conn., who are members of the program committee for the Eastern States extension workers' conference, visited the department during the week of January 3 to confer with the third member of the committee, Florence E. Ward, in charge eastern division, Office of Cooperative Extension Work, regarding arrangements for the meeting. The conference will be held February 24-26 at the Pennsylvania Hotel, New York City, to discuss matters relating to extension work in human nutrition, soils and crops, and dairying.

An unusual feature of the recent conference of Massachusetts extension workers at Amherst was the discussion of principles of teaching by W. H. Kilpatrick, professor of education, Teachers College, Columbia University, New York. Application of these principles to extension teaching was studied by the group during the greater part of the four day session, December 15-18.

BRIEF REVIEWS OF NEW BULLETINS

Transportation of Citrus Fruit From Porto Rico. By R. G. Hill, horticulturist, and Lon A. Hawkins, plant physiologist. Office of Horticultural Investigations, Bureau of Plant Industry. Pp. 20, figs. 8. December 30, 1924. (Department Bulletin 1290.) Price, 5 cents.

From the results of four experimental trips, the department believes that citrus fruit can be effectively carried from San Juan, P. R., to New York under present ship refrigeration conditions. To accomplish this, however, the fruit should be handled carefully at the packing house, in loading and stowing on the ship, and should be placed under refrigeration as soon as possible after it is packed. The experiments and results are discussed in this bulletin.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of December 20, 1924-January 3, 1925. Copies of these publications may be obtained from the stations issuing them.

A systematic study of the *Anthomyiinae* of New York, with especial reference to the male and female genitalia. H. C. Hockett. (New York Cornell Sta. Mem. 77, pp. 91, figs. 202. Aug., 1924.)

The inheritance of brown aleurone in maize. P. Kvakon. (New York Cornell Sta. Mem. 83, pp. 22. Dec., 1924.)

Building the dairy barn. N. S. Fish. (Wisconsin Sta. Bul. 369, pp. 31, figs. 27. Aug., 1924.)

New chick feeding facts. E. B. Hart, H. Steenbock, J. G. Halpin, and O. N. Johnson. (Wisconsin Sta. Bul. 371, pp. 24, figs. 16. Nov., 1924.)

Alfalfa and horses. R. S. Hudson. (Michigan Sta. Circ. 65, pp. 7, fig. 1. Nov., 1924.)

Experiments in crop rotation and fertilization. E. C. Wiggins. (New York Cornell Sta. Bul. 434, pp. 56, figs. 5. Nov., 1924.)

Thirty-seventh annual report of the Dean [New York State College of Agriculture and Agricultural Experiment Stations], 1924. A. R. Mann, pp. 89.

Articles in Current Publications

By Department Workers

Ashe, W. W. (Forest Service). The profit in operating small top logs. *The Timberman*, December, 1924.

— Economic waste in cutting small timber. *Southern Lumberman*, December 20, 1924.

— Can the lower Mississippi pine lands be made permanent investments? *Lumber Manufacturer & Dealer*, December 12, 1924.

Back, E. A., and R. T. Cotton (Entomology). Ethyl acetate-carbon tetrachloride mixture. *Journal of Economic Entomology*, vol. 17, no. 6, p. 663, December, 1924.

Bain, J. B. (Dairying). The humble origin of a dairy breed. *Hoard's Dairymen*, p. 68, no. 24, p. 731, 743; no. 25, p. 761, 784. December 26, 1924, and January 2, 1925.

Benson, A. O. (Forest Service). Some thoughts on hardwood lumber grading. *Southern Lumberman*, December 20, 1924.

Campbell, R. E. (Entomology). Injuries to peppers in California by *Anthonomus eugenii* Cano. *Journal of Economic Entomology*, vol. 17, no. 6, pp. 645-647, December, 1924.

Cary, A. (Forest Service). Southern timber resources in relation to paper making. *American Lumberman*, December 20, 1924.

Chamberlin, T. R. (Entomology). Studies of the parasites of the alfalfa weevil in Europe. *Journal of Economic Entomology*, vol. 17, no. 6, pp. 623-632, December, 1924.

Cole, F. R. (Entomology). Notes on the dipterous family Asilidae, with descriptions of new species. *The Pan-Pacific Entomologist*, vol. 1, no. 1, pp. 7-13, illus., July, 1924.

Ezekiel, Mordecai (Agricultural Economics). A method of handling curvilinear correlation for any number of variables. *Journal of American Statistical Association*, Dec., 1924.

Forbes, R. D. (Forest Service). Growing pulp wood in the South. *Southern Lumberman*, December 20, 1924.

Frothingham, E. H. (Forest Service). Some silvicultural aspects of the chestnut blight situation. *Journal of Forestry*, December, 1924.

Gabrielson, Ira N. (Biological Survey). Two Oregon Water Birds of Interest. *The Condor*, vol. 26, no. 6, pp. 230-231, November, 1924.

Greeley, W. B. (Forest Service). Henry C. Wallace, leader and friend. *Journal of Forestry*, December, 1924.

— Tentative statement of administrative policy under cooperative provisions of Clarke-McNary law. *West Coast Lumberman*, December 15, 1924.

Hais, I. T. (Forest Service). The application of normal yield tables. *Journal of Forestry*, December, 1924.

Handzik, E. J. (Forest Service). Forestry in Sweden. *University of Washington Forest Club Quarterly*, November, 1924.

Hitchock, A. S. (Plant Industry). Botanizing in Peru. *Scientific Monthly*, vol. 20, pp. 47-63, January, 1925.

— *Pseudochaetochloa*, a new genus of grasses from Australia. *Journal of the Washington Academy of Science*, vol. 14, pp. 491-492, December 19, 1924.

Kelly, E. (Bureau of Dairying). Grading milk—what does it mean? *Hoard's Dairymen*, vol. 68, no. 24, pp. 732-733. Dec. 26, 1924.

Kneeland, Hildegarde (Home Economics). The field of research in the economics of the home. *Journal of Home Economics*, vol. 17, no. 1, pp. 15-19, January, 1925.

Korstian, C. F. (Forest Service). The tragedy of chestnut. *Southern Lumberman*, December 20, 1924.

Larson, A. O., and C. K. Fisher (Entomology). The possibilities of weevil development in neglected seeds in warehouses. *Journal of Economic Entomology*, vol. 17, no. 6, pp. 632-637, fig. 18, December, 1924.

Loughborough, W. C., and E. E. Hubert (Forest Service). Problems in the seasoning of southern hardwoods. *Southern Lumberman*, December 20, 1924.

Malloch, J. R. (Biological Survey). On some Australian Acalyptate Diptera. *Proceedings Linnaean Society of New South Wales*, vol. 49, pt. 3, pp. 348-359, October 24, 1924.

— Two new Florida from the Eastern United States (Diptera). *Entomological News*, vol. 35, pp. 355-357, December, 1924.

Munger, T. T. (Forest Service). Government forestry research. *Lumber World Review*, December 25, 1924.

Price, J. H. (Forest Service). Relation of the quality of lumber produced to the percentage of the stand cut. *Journal of Forestry*, December, 1924.

Rue, J. D. (Forest Service). The development of pulp and paper making in the South. *Southern Lumberman*, December 20, 1924.

Shaw, S. B. (Forest Service). Management of forest properties in the California pine region as a problem in applied ecology. *Scientific Monthly*, November, 1924.

Stickel, P. W. (Forest Service). The grazing of cattle and horses in pine plantations. *Journal of Forestry*, December, 1924.

Teeddale, L. V. (Forest Service). Seasoning troubles increased by wood shortage. *Wood-Worker*, November, 1924.

Thelan, R. (Forest Service). The bricketting of sawdust. *Southern Lumberman*, December 27, 1924.

Wyman, L. (Forest Service). How deep should I chip my timber? *Southern Lumberman*, December 15, 1924.

Yothers, H. M. (Entomology). Tree cricket injury to pines. *Journal of Economic Entomology*, vol. 17, no. 6, pp. 661-662, December, 1924.

Yothers, W. W. (Entomology). *Journal of Economic Entomology*, vol. 17, no. 6, Scientific notes, p. 668, December, 1924.

DEMONSTRATE COYOTE CONTROL IN IOWA

Although coyotes are not common in Iowa, they are numerous enough in places to cause serious depredations to domestic animals, poultry, and game. Recent requests to the department for assistance from farmers in the western part of the State resulted in investigations which showed that the sheep breeders there did, indeed, have reasons for complaint.

Throughout that section of Iowa the topography is quite broken, with considerable timber and underbrush offering suitable protection and breeding places for coyotes. However, as a whole, the land is in a high state of agricultural development—hence the need for control.

In requesting information for controlling the animals, the large sheep breeders stated that a great many sheep had been killed by the coyotes, and, as the latter were always a threatening menace, the sheep had to be corralled each night, so that the additional time required to care for the flocks was another matter of considerable consequence. The adverse effect upon the sheep themselves on account of the safety precautions required also had to be considered.

Accordingly, the Biological Survey sent one of its supervisors in predatory animal control to the aid of these farmers and breeders. Two public demonstrations in methods of coyote control were given. These included trap setting and baiting, the selection of a suitable location, and the use of poison.

A great deal of interest was displayed in the demonstrations, and successful results are being reported to the Biological Survey as a result of them. One of the largest sheep breeders in that section reported that he trapped a couple of coyotes the next morning after setting out traps and, from the tracks near by, expected to get others soon.

Those persons interested in protection against lightning may obtain concise, practical, and up-to-date information, accompanied by specifications for installing the equipment so as to secure the greatest degree of protection with the type of installation chosen, in *Farmers' Bulletin* 842, of which the Weather Bureau is the author. This bulletin, entitled "Modern Methods of Protection Against Lightning," attempts to displace incorrect or vague ideas about lightning protection, so that one who proposes to have his buildings rodged may understand the requirements for such work, and be able to know when the work is well done and the cost reasonable.

PRINCIPAL LIBRARY ACCESSIONS

Ames, Oakes. An enumeration of the orchids of the United States and Canada. Boston. American orchid society, 1924.
 Buck, M. S. Book repair and restoration. Philadelphia, N. L. Brown, 1918.
 Empire textile conference, *Wembley*, 1924. Official report. Manchester, Textile Institute, 1924.
 Forel, A. H. Les fourmis de la Suisse. 2. éd. La Chaux-de-fonds, Imprimerie coopérative, 1920.
 Hiscox, G. D. Henley's twentieth century formulas, recipes, and processes. 5th ed. New York, The N. W. Henley publishing company, 1924.
 Janks, J. K. Spices. 4th ed. New York, Spice mill publishing co., 1924.
 Kendrew, W. G. The climates of the continents. Oxford, Clarendon press, 1922.
 Lewis, A. A. Boxwood gardens, old and new. Richmond, Va., William Byrd press, 1924.
 Manning, G. P. Reinforced concrete design. London, Longmans, Green, 1924.
 Navarro y Pérez, Leandro. Las enfermedades del olivo. Madrid, Calpe, 1923.
 Popoff, Methodi, and Giesberg, W. Zellstimulationsforschungen. bd. 1, hft. 1. Berlin, P. Parey, 1924.
 Reese, A. M. Outlines of economic zoology. 2d ed. Philadelphia, Blakiston, 1924.

CIVIL SERVICE ANNOUNCEMENTS

Highway economist, \$3,800; associate highway economist, \$3,000; assistant highway economist, \$2,400. Vacancies in the Bureau of Public Roads, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$5,000 a year for highway economist, up to \$3,600 a year for associate highway economist, and up to \$3,000 a year for assistant highway economist. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes February 3, 1925.

Junior scientific aid (mycology), \$1,320, February 4, 1925. A vacancy in the Bureau of Plant Industry, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,680 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

Under scientific helper (nematology), \$1,140, February 4, 1925. Vacancies in the Bureau of Plant Industry, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,500 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

APPROPRIATION BILL IS PASSED BY CONGRESS

(Continued from page 1)

ferred from the Department of Agriculture to the Federal Trade Commission under a bill (S. 3841) which has been introduced in Congress by Senator Frazier, of North Dakota. Practically all the power now exercised by the Depart-

ment of Agriculture under the packer act and some additional powers would be exercised by the commission under the Frazier measure. Regulation of the packing business was in the hands of the Federal Trade Commission before the present packers and stockyards act was passed.

There are provisions in the bill intended to prevent restraint of trade or monopoly in the livestock packing business. One clause forbids packers to sell or transfer livestock among themselves "with the effect of apportioning the supply in commerce between any such packers, if such apportionment has the effect of restraining commerce or of creating a monopoly."

Aimed at Price Fixing

The bill also prohibits transactions made "for the purpose or with the effect of manipulating or controlling prices." Arrangements for the apportionment of territory for the carrying on of the packing business are prohibited.

Authority to enforce these provisions is conferred on the Federal Trade Commission. Orders made by the commission after hearings would be final unless appeal was made within 30 days to the circuit court of appeals. Decisions of the circuit court affirming or modifying orders of the commission would operate as injunctions restraining packers or others from violating such orders.

Other clauses of the bill require charges made at public stockyards to be "just, reasonable, and nondiscriminatory." Power is given the commission to approve or reject proposed schedules of charges at stockyards.

In clauses providing for the transference of the stockyards administration from the Department of Agriculture to the Federal Trade Commission, the department is directed to hand over all documents, papers, records, files, and dockets of every kind relating to the packers and stockyards act and its administration. It is also required to turn over any unexpended balances of appropriations made for the administration of the act. Rules and regulations in effect at the time of the transfer, however, would remain in effect unless changed by the new administrative body.

A bill (H. R. 11211) has been introduced by Representative Raker, of California, providing for the inclusion of certain lands in the Plumas National Forest, the Eldorado National Forest, the Stanislaus National Forest, the Shasta National Forest, and the Tahoe National Forest.

A bill (S. 3714), authorizing cooperative agreements between the heads of the executive departments and the Governor of Alaska, has been reported to the Senate from the Committee on Territories and Insular Possessions. The bill has been reported to the House from the Committee on the Public Lands.

Department Bill Reported

The agricultural appropriation bill (H. R. 10404) has been reported to the Senate from the Committee on Appropriations.

The first deficiency appropriation bill (H. R. 11308) has been passed by the House. It contains an item of \$25,000, available until June 30, 1926, to enable the Secretary of the Interior, in cooperation with other departments of the Federal Government or with States, to meet the emergency caused by forest insects within national forests.

Representative Sinnott, of Oregon, has introduced a bill (H. R. 11357) authorizing the President to restore to the public domain lands reserved by public proclamation as national monuments. Any such restorations heretofore made would be validated by the bill.

CONFERENCE ON FARM PROBLEMS RECONVENES

(Continued from page 2)

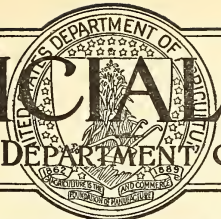
given particular attention to sheep husbandry and is looked upon as a national authority on this subject. To-day his department at Minnesota comprises the College of Agriculture, three schools for the instruction of subcollegiate rank, and the experiment station work, consisting of a central station and eight branches. A total of 400 people work under him.

Fred H. Bixby, president of the American National Livestock Association, has given considerable time and effort during his life to farm organization work but finds time to manage a 15,000-acre ranch in California. To-day he is pasturing 100,000 acres in California and 150,000 acres in the Tonto National Forest Reserve in Arizona.

L. J. Taber, master of the National Grange, has more than a legitimate claim to being a real farmer as he comes from a line of Quakers who have been farming for almost 300 years. Early in his life he moved to Belmont County, Ohio, and lived on the same place until two years ago when he became master of the grange. He has devoted 25 years of his life to the furthering of the organization which has rewarded him with the highest honor in its possession.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JANUARY 21, 1925

No. 3

LIVESTOCK INDUSTRY WARRANTS CONFIDENCE

Agricultural Conference Submits Recommendations for Improv- ing Cattle Situation

The President's agricultural conference which was called to consider and point out such practical steps as may be taken to put agriculture upon a business basis has submitted to him a preliminary report dealing with the emergency in the livestock industry with specific attention to the cattle situation. The conference reports that confidence in the cattle industry is warranted and further states that those adjustments which will assist in putting it on a sound and efficient basis, should be made as speedily as possible. These adjustments should deal with finance, transportation costs, tariff, and grazing, says the report.

Financing the Industry

The conference found that the cattle industry was faced with a serious shortage of credit facilities. The breakdown of the old packer-controlled livestock loan companies, the weakened and restricted condition of many local banks of the range country, the lack of available primary discount agencies lie at the root of the present credit problem of the cattlemen. The Federal intermediate credit bank has adequate funds and by law is empowered to advance the necessary money to take care of sound livestock loans wherever they may be presented through solvent, well-managed discount agencies. It is necessary at this time that the Federal intermediate credit banks should assume the full responsibility by aggressively and sympathetically undertaking to cover the field and thus support and supplement the normal financing of livestock paper. The conference fully recognizes that only such loans should be made through the Federal intermediate credit banks as

are safe and will carry the confidence of the investors in Government debentures. It therefore recommends that:

1. The Federal Farm Loan Board, which administers the Federal Intermediate Credit Bank, be requested to send its chairman, together with the member of the board who is specially charged with the administration of the Federal intermediate credit banks and such other representatives as the board may deem necessary, to enter upon an immediate campaign to present to the cattlemen, bankers, and commercial institutions of the various States the information that the intermediate credit banks are able and willing to provide adequate rediscount facilities for all sound loans to livestock raisers, and that for this purpose there need only be organized, or continued, stable discount agencies.

In this connection it is also recommended that the representatives of the Federal Farm Loan Board should most carefully review the personnel of the various intermediate credit banks to see that those who are employed are not only conversant with banking principles, but are also conversant with the needs of agriculture, including the livestock industry, and are sympathetic in promptly assuming the responsibility of meeting the financial needs of agriculture in their respective localities.

The conference has been assured by the chairman of the Federal Farm Loan Board that it stands ready to carry out this program.

2. A special report be made by the chairman of the Federal Farm Loan Board to the President on July 1, 1925, indicating such progress as has been made in meeting this emergency.

3. The agricultural credits act be amended by eliminating the provision that prohibits the rediscounting by Federal intermediate credit banks of loans negotiated by federally chartered agricultural credit agencies.

Transportation Costs a Burden

By reason of the horizontal changes in freight rates during recent years and of

(Continued on page 3)

AGRICULTURAL BILLS DISCUSSED THIS WEEK

Senate Favors \$50,000 Expense Item For President's Agri- cultural Conference

The first deficiency bill (H. R. 11308), carrying an item of \$50,000 for the expenses of the President's agricultural conference, has been passed by the Senate and sent to conference. Money for tax refund is the principal provision of the bill.

A bill (S. 3632), amending the Federal Farm Loan Act and the agricultural credits act of 1923, has been reported, with amendments, to the Senate, by the Committee on Banking and Currency. This bill provides that the Federal Farm Loan Board shall equitably apportion the joint expenses incurred in behalf of the Federal land banks, the joint-stock land banks, and the Federal intermediate credit banks, and that it shall assess against each Federal intermediate credit bank its proportionate share of the expenses of the Federal Farm Loan Board made in connection with the operation of this provision.

Would Assist Bank Liquidation

The bill also provides that any Federal land bank or joint-stock land bank may, with the approval of the Federal Farm Loan Board, acquire the assets and assume the liabilities of any joint-stock bank. This provision, which waives previous legal conditions requiring Federal land banks or joint-stock land banks to obtain loans only through national farm loan associations or agents, is intended to assist in the liquidation of joint land banks when such action is desired.

The Underwood bill (H. R. 10404), authorizing the leasing of Muscle Shoals, has been passed by the Senate, which defeated the Jones bill proposing a com-

mittee to investigate the Muscle Shoals problem.

Senator Ladd, of North Dakota, has introduced a bill (S. 3911), amending an act to consolidate national forest lands. This measure provides that either party to an exchange of forest lands may make reservations of timber, minerals, or easements, the values of which shall be duly considered in determining the values of exchanged lands. When such reservations are made in lands conveyed to the United States, the right to enjoy them shall be subject to reasonable conditions respecting the use of the surface land.

Senator King, of Utah, is the author of a bill (S. 3872), amending the Federal farm loan act so as to provide that loans under the act may be made direct to any farmers' cooperative association on the security of warehouse receipts or shipping documents, or mortgages on livestock. Loans would be limited to 90 per cent of the value of the products pledged as security.

Three Forest Bills Reported

Three bills authorizing additions to national forest lands (H. R. 11500, H. R. 5612, and H. R. 9028), have been reported to the House from the Committee on Public Lands.

The President has approved a bill (S. 1762), providing for the acquisition by the United States of privately owned lands within Taos County, N. Mex., known as the Santa Barbara grant, by exchanging therefor timber, or lands and timber, within the exterior boundaries of any national forest within the State of New Mexico.

Representative Haugen has introduced a resolution (H. J. Res. 320), to remove restrictions upon availability and expenditures of appropriations authorized to be made for the acquisition of lands for the upper Mississippi River wild life and fish refuge.

Farmers Forming Cooperatives Urged to Consider Economic Need

Farmers are being urged by the department that in forming cooperative marketing organizations careful consideration be given the economic need for such organizations, and that the advice of competent cooperative marketing experts be sought. There are thousands of successful marketing organizations in the United States, but there are also numerous failures where associations have not been founded on fundamental economic principles. It is better to start right than later to be compelled to reorganize or possibly fail, the department points out.

Studies by the department of more than 10,000 cooperative organizations now in existence, and which comprise approximately 70 per cent of all such associations in the United States, emphasize the fact that success in cooperative marketing can not be won over-night. These organizations, some of which have been in existence more than 20 years have at times been put to severe tests, but through loyal membership, singleness of purpose, and business-like management have weathered the recurring storms of economic conditions.

The history of agricultural cooperation in the United States runs back to the Civil War. The first cheese factory was established in 1863, and the first organization of fruit and vegetable growers in 1878. Two organizations of grain growers were formed in 1887, followed in 1890 by an organization of livestock raisers. The movement developed slowly and over a long period of years while these and other pioneers were putting their theories into actual practice. Other associations were established and the principles of sound cooperative methods were demonstrated until in 1900 there were several thousand farmers' organizations in existence.

The movement was given great impetus during the next 20 years. By 1905 numerous grain organizations had been formed and each year saw an increasing number of grain growers banding together to market their commodity. Livestock organizations were also formed in increasing numbers during the next 15 years, until in 1920 the peak of the movement in all commodities was reached. More than 800 organizations now in existence and reporting to the department were formed in 1919; in 1920 there were established 973 associations now functioning, and in 1921 there were organized 776 associations. The years 1921-1923 saw the formation of State-wide cotton and tobacco organizations.

The total number of farmers' organizations in the United States is now in excess of 12,000 with a membership of about 2,000,000 farmers, and doing an annual business of more than \$2,500,000,000. Seventy per cent of all the associations are in the 12 North Central States, which States include the great corn and wheat producing areas. Six per cent of the organizations are in the three Pacific Coast States.

There has been an increase of nearly 200 per cent in the number of associations since 1915, according to the department's records; the membership has increased 300 per cent, and the estimated amount of business has increased 200 per cent as measured in dollars.

The local associations were the first historically and are still the most numerous. They are created by farmers of a single community to perform services which can well be performed near the producing areas. Primarily these functions are the assembling of farm products and the preparation of them for market.

About 50 federations of local organizations are reported as now functioning in the United States. These federations determine policies regarding standardization of products and the preparation of products for entering the channels of trade. They usually develop and handle the advertising and selling campaigns, and all matters of transportation and legal affairs.

The centralized or State-wide association which combines the functions of the local and the federation has come into prominence during the past five years. There are now about 50 organizations of this type operating throughout the country, including 15 large cotton associations, 7 big tobacco associations, and numerous State-wide associations handling other commodities.

FOWL PEST SITUATION NOT ALARMING

Reports from representatives of the Bureau of Animal Industry in various parts of the country show no alarming developments in the outbreak of European fowl pest. Dr. John R. Mohler, chief of the Bureau, says there seems to be no particular reason to be pessimistic concerning the possibility of its control.

Outside of the big markets of New York, Jersey City, and Philadelphia only a few infected centers have thus far been found. In Connecticut 11 infected farms were found and in New York State and Pennsylvania two or three farms each. These are the only cases where the pest has been found on farms. Last week a carload of poultry from the West was returned to Chicago from Jersey City after having been held at the latter place 13 days. By the time the returned car had reached Chicago most of the birds had died. Those still alive were killed under supervision of inspectors. All carcasses were burned and the car thoroughly cleaned and disinfected. Since that time there has been no spread of the disease in that locality.

The Bureau of Animal Industry, through its corps of inspectors and with the assistance of State forces and various interested individuals and companies is keeping a close watch of all poultry shipments in order to prevent any spread of the pest should it appear at any point.

Leon M. Estabrook Describes Agriculture in the Argentine

The agricultural activities of Argentina were discussed at a conference of department extension workers and others interested, on January 7, in the office of cooperative extension work, by Leon M. Estabrook, Bureau of Agricultural Economics, who has recently returned from Argentina, where at the request of the Minister of Agriculture he spent two years in reorganizing their statistical service.

Argentina is already one of the most important competitors of the United States in crop and livestock production, said Mr. Estabrook, and is destined to become even more formidable in the future because of its great areas of virgin soils, its favorable climate, its cheap land and labor, its low cost of production, its short hauls from point of production to the seaboard, and its water transportation to the consuming nations of western Europe.

The grain belt and principal agricultural region of Argentina, Mr. Estabrook stated, is within a radius of 300 to 350 miles of Buenos Aires. Here is produced 95 per cent of the crops and livestock of the country. Crop production could easily be trebled and the cost of production is low. North of the grain region is a semitropical section which is rapidly developing a cotton industry and which can grow rice, tobacco, peanuts, castor beans, sweet potatoes, manioc, sugar cane, yerba mate, coffee, and citrus fruits on a large scale when population, transportation, and market conditions develop. Of the total area of Argentina, less than 8 per cent, or about 55 million acres, is under cultivation.

Of the cultivated area, Mr. Estabrook found about 51 per cent in cereals—wheat, corn, oats, barley, rye, alpiste, and rice; about 36 per cent in alfalfa; 9 per cent in industrial crops—flaxseed, vineyards, sugar cane, cotton, peanuts, manioc, tobacco, yerba mate, and castor beans; truck and fruit crops and areas planted in trees make up the remaining 4 per cent.

Argentine exports about seven and a half million tons of cereals annually, Mr. Estabrook's figures showed, about the same amount of frozen and chilled beef, and a considerable amount of butter, cheese, and casein. The amount of dairy products exported is increasing rapidly.

Agricultural extension work is conducted by the Argentine Government but by somewhat different methods from those of this country. Government em-

ployees, spoken of generally as extension agents, are stationed at strategic points in the agricultural sections for the purpose of instructing the farmers in improved agricultural practices. A considerable amount of improvement in farming methods is accomplished, in addition, through the work of men employed by the Government to enforce measures of insect pest and disease control.

LIVESTOCK INDUSTRY WARRANTS CONFIDENCE

(Continued from page 1)

greater depression of prices of agricultural products than of those of other products, during the same period, the raw products of agriculture are now bearing a relatively excessive cost for transportation. A special burden is laid upon the cattle industry by this situation. A serious emergency exists not only in freight rates, but also in the lack of provision of inter-line rates and in routing arrangements. The conference will, therefore, announce its recommendations concerning the consideration of transportation service and costs for agricultural products, including livestock, in a subsequent report. It does wish to emphasize at this time its conviction that while adequate service is essential, the welfare of agriculture also demands an early and thorough revision of the freight rate structure to relieve the raw products of agriculture and livestock from their disproportionate share of transportation costs.

Needs Tariff Protection

The cattle industry is suffering through the lack of tariff protection from competition with hides and meat products from foreign countries produced by cheaper labor and under different standards of production. Other agricultural enterprises are also suffering from similar competition, much of which has recently become more acute. While the conference recognizes this difficulty as one factor in the distressing situation of the livestock industry, it believes it best to reserve its recommendations concerning tariff protection to the cattle producer until a later report in which its general conclusions concerning protection against foreign competition in agricultural products may be presented.

Recommend Uniform Grazing Policy

The policy of free and unrestricted grazing on the public domain has unduly encouraged many to undertake livestock raising and also caused those already engaged in the business to increase their herds and flocks. With high prices there has always been a tendency to increase livestock on a free range. As a

result this land has been overstocked, its grazing value is greatly reduced, much of the livestock is of inferior quality, and great losses have been incurred. This policy has hindered efficient operation on the part of stockmen.

In contrast with unrestricted grazing on the public domain, grazing in the national forests is regulated. This has resulted in improving the quality of the range and the production of cattle therein. The conference recommends that the unappropriated public domain should be placed under lease, and that there should be a uniform policy agreed upon for the administration of grazing on the public lands and in the national forests. In order to determine the administration, rules, regulations, and fees governing grazing, the conference further suggests the appointment of a committee created essentially as follows: (a) One member who shall be the Secretary of Agriculture or his representative; (b) one member who shall be the Secretary of the Interior or his representative; and (c) three members, two of whom shall represent the livestock grazing industry, appointed by the Secretaries of Agriculture and the Interior, acting jointly.

Until such time as a uniform plan of leasing is agreed upon, the conference recommends that there be no increase in fees charged for grazing in the national forests.

Improvements in Methods

Both cattlemen and the agencies through which they are financed should realize that in addition to adjustments with respect to such matters as finance, transportation costs, and the tariff, adjustments with a view to improving methods of production and management are also necessary to bring about a satisfactory stabilization of the cattle industry.

Efficient and economical production depends in large part upon high breeding capacity in the herd, good management of the grazing and winter-feed-producing areas, and a wise determination of the class of cattle that should be marketed from the range involved. Industry.

Brief sketches of a number of men who have been connected with the department appear in a group of short biographies making up a book entitled "Fifty Famous Farmers," by Lester S. Ivins, head, department of agriculture, Kent State Teachers College, and A. E. Winship, publisher of the Journal of Education, which has recently been issued. Among the biographies included are those of Secretaries Rusk, Morton, Wilson, Houston, Meredith, and Wallace, and of William Saunders, G. Harold Powell, Gifford Pinchot, Seaman A. Knapp, W. O. Atwater, A. C. True, and J. F. Dugger.



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DEPARTMENT WORKER COMMENDED

Secretary Gore has transmitted to A. E. Beals of the Weather Bureau, located at Honolulu, a communication from Colonel Smither, the chief coordinator for general supply of the Bureau of the Budget, commending Mr. Beal for his efforts in forming a Federal business association in Honolulu. Colonel Smither stated that these associations are of great assistance in promoting the work of coordinating Government business. In his letter Secretary Gore said: "Your action in this instance is altogether in harmony with the policy of this department which, as you know, is to cooperate in such matters to the fullest extent and in transmitting to you the thanks of the chief coordinator I wish also to express the appreciation of the Department of Agriculture and my own satisfaction in learning of the leadership of a representative of this department in organizing this association of Federal Government agencies in Honolulu."

VETERAN EMPLOYEE HONORED

Few men have served longer in responsible work in the department than Benjamin Day Stallings, and few there are of the large number of scientists, administrators, and others who in the last 28 years have written of the department's work for the thousands of our publications who have not had more or less official touch with him and gained therefrom an appreciation of his personal qualities, his helpfulness to them as individuals, and his efficiency in the issuance of the department's publications. Saturday noon, January 10, on his seventy-third birthday, Mr. Stallings was guest of honor at a luncheon tendered by his immediate associates in the office of publications. He is now assistant in the publications office, in

charge of the production of all the department's printed matter.

Mr. Stallings, born in Alexandria, Va., in 1852, was educated at Alexandria Academy and under tutors, and while preparing for college in Alexandria he learned the printing trade. For 12 years he was reporter and news editor of Alexandria, Georgetown, and Washington newspapers and sent special Virginia correspondence to New York newspapers in the reconstruction days, when much important news of national concern was being made in the Old Dominion.

He was appointed to a position in the Government Printing Office about 35 years ago, where, after five years' service as copy editor, he entered the Interior Department. In the Interior he was assigned to the eleventh census, which he assisted in editing and producing in printed form, and eventually was placed in charge of the census publications. In 1896 he resigned from the Interior Department to come to the division of publications, Department of Agriculture, under Secretary Morton. In the division of publications he has served as indexer and proof reader, associate editor and editor, and assistant chief.

TO CONFER ON ROSIN SITUATION

A conference of the producers and dealers in rosin will be held in the Bureau of Chemistry, Washington, D. C., on January 26 at 10 a. m. to discuss the results of the preliminary survey just completed by that bureau of conditions existing in the trade with reference to the grading and labeling of rosin. The work of enforcing the naval stores act was started in July last by an investigation of the conditions at the destination markets in the East and Central West. Plans to remedy any unsatisfactory conditions found will be discussed at the meeting of the Federal officials and the producers and dealers. The trade has been urged by the officials of the Bureau of Chemistry to send representatives from every locality interested.

COOPERATIVE MOVEMENT SHOWS CHANGE

The character of the agricultural co-operative movement in the United States has undergone a marked change during the last four years, says the department. Farmer's business organizations prior to 1920 were mostly local enterprises and federations of locals for selling purposes. "Large" organizations operating over an entire producing section or even an entire State have been developed since that time. Fifty of these new "large"

organizations have a larger membership and do a larger annual volume of business than the 5,424 associations included in a survey made by the department in 1915.

The 5,424 associations in 1915 reported a membership of 650,000 farmers and an annual business aggregating \$635,000,000. The Federal census of 1919 reported 624,000 farms engaged in cooperative selling or buying, and total cooperative sales and purchases of over \$800,000,000. The Department of Agriculture in a survey following the passage of the Capper-Volstead Cooperative Act in 1922 received reports from 10,160 associations having an estimated membership of 2,025,000 farmers and doing an annual business of more than \$2,000,000,000.

ROBERT WILLIAM MERRICK

Robert William Merrick, blister rust control agent in Worcester, Mass., died suddenly on the morning of January 8, in his 54th year. Mr. Merrick was attending the annual union agricultural meeting in connection with a blister rust exhibit at the time of his death. He had joined the blister rust organization in May, 1922, at the beginning of the present campaign, but was formerly connected with the department as a member of what was then known as the Bureau of Markets.

During the World War, Mr. Merrick had an important part in local food production work and established and managed one of the first community markets in the country, located at Quincy, Mass. He later filled the position of agricultural secretary of the Boston Chamber of Commerce.

CLUB CHAMPIONS PLAN ANNUAL VISIT

Arrangements for the twentieth annual visit of a group of Chemung County, New York, champion club members to the department and other points of interest in Washington during the Easter vacation, are being made by Rufus Stanley, club agent of that county, who spent part of the week of January 12 in the department for that purpose. A number of members of earlier clubs, in addition to this year's prize winners, are expected to accompany Mr. Stanley on this trip and other features not ordinarily included are planned to mark the twentieth year in which Chemung County's champion club boys and girls have visited Washington under Mr. Stanley's guidance as a reward for excelling four years in club work.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is the total mileage of roads and trails that have been constructed within or adjacent to the national forests?

Answer. To July 1, 1924, a total of 8,706 miles of highway has been constructed at a cost of \$34,185,850, of which \$9,654,611 was cooperative money, and a total of 15,875 miles of trails costing \$3,657,831, \$147,322 of which was furnished by local cooperators.

Question. What has the department published on vitamins?

Answer. The Bureau of Animal Industry has conducted experiments to determine the vitamin B content of the voluntary muscle and the edible organs of the ox, sheep, and hog, as well as of the flesh of poultry and of eggs, and the results of this work have been published by the department. Several of the bulletins on the nutritive value and use of foods in the diet issued by the Bureau of Home Economics contain brief statements of the nature of vitamins and list the foods known to be rich sources of the three designated as A, B, and C. Reports of new research on vitamins all over the world are published regularly in the Experiment Station Record. As yet, however, the department has published no bulletin giving detailed information on the vitamin content of foods.

Question. What points should be included in discussing the food value of any material?

Answer. In order to make a fair statement about the food value of any given material, at least three points should be considered: Fuel value, mineral content, and vitamin content. The first is measured by calories and the second by weight, but as yet no means have been devised of measuring vitamins. Whether the protein is of kind known to be efficient should also be considered in foods valued as a source of this constituent. Comparisons of foods not touching on all these points are misleading.

Question. Has the department made any investigations concerning the use of peanut flour to save wheat?

Answer. During the World War when conservation of the wheat supply was of prime importance experiments made in the department with peanut flour showed

it to be especially well adapted as a part substitute for wheat in bread making and in the making of baking powder biscuits, cakes, gems, waffles, and griddle cakes. The flour was made by grinding the roasted or unroasted nuts or from the pressed cake after the oil had been extracted. Peanut flour from the pressed cake contains over four times as much protein, eight times as much fat, and nine times as much mineral ingredients as white flour. Bread made from one part of peanut flour and three parts of wheat flour is highly nutritious. A number of ways of using peanut flour are given in circular 110, office of the Secretary, yearbook separate No. 746, and Farmers' Bulletin 1136.

Policy of Immediate Release of Scientific Data Commended

An editorial in the December issue of Public Works comments favorable on the policy of the Bureau of Public Roads in making available reports on its road construction work and research investigations. After a reference to the annual report of the bureau which he says gives the results of investigations briefly because most of them have already been made public, the editor says:

"The Bureau of Public Roads publishes a monthly in which appear descriptions of investigations under way, results to date, and tentative conclusions based thereon; and its engineers and investigators are always ready to give any information available in the form of articles for appropriate periodicals and papers before highway organizations."

Referring to what he understands to be the policy of the bureau " * * * that the public is entitled to such advantage as may be had from immediate knowledge of individual results and tentative conclusions," he says:

"The advantage of the latter policy is frequently great. It stimulates coincident investigation by others along similar lines and thus secures a much broader and more varied assortment of data upon which the bureau's investigators may base their conclusions; while, its own data as well as those others being known, its conclusions can be checked by experts outside the bureau, thus increasing both the reliability of the conclusions and the confidence of everyone in them.

"Whether or not this cooperation with outside agents was a predetermined feature of the policy of the Bureau of Public Roads, it has become a most important one, not only in encouraging investigations by others, but also in generating

public interest in and understanding of its own investigations and conclusions, and thus securing that confidence in its work which, as public officials and departments are ever anew discovering, results from frank and full publicity.

* * *

"To our mind, the only defensible policy with respect to scientific investigations, especially those made with public funds, is prompt publicity of all results, rather than waiting until a final and complete report can be made. No one can hope to deliver the final word on any scientific subject, for if there is one thing that this generation has learned it is that science is infinite; each investigation can at best furnish but a step in the progress of science or art, and that step must be timely to be of value. Moreover, probably the credit for no recent advance in science can be claimed by a single investigation. It is the interchange of ideas and discoveries between scientists the world over that has caused the phenomenal progress of the past 50 years, and the more prompt and free this interchange between all, the more certain and rapid the advance made by each."

Represents Department at Ogden Livestock Show

A large increase in the number of animals exhibited and a noticeable improvement in their quality, compared with former years, impressed visitors at the sixth annual livestock show held in Ogden, Utah, January 6-10, inclusive. The event included exhibits of beef and dairy cattle, sheep, and swine, and was the occasion also for numerous conferences in the interest of improved livestock in the intermountain region.

Representing the Bureau of Animal Industry, Dr. F. E. Murray, in charge of its office at Salt Lake City, attended the Ogden livestock show to confer with State officials and agricultural leaders active in tuberculosis-eradication work. W. W. Owens, county agent leader in Utah, has made the eradication of tuberculosis from livestock one of the major activities, and county agents throughout the State are doing most of the preliminary work. This excellent cooperation enables State and Federal veterinarians to devote practically all their time to actual testing.

With this assistance, livestock owners have been able to develop herds showing noticeable improvement from the standpoint of both health and general excellence. In dairy cattle particularly the Ogden show reflected the advances which livestock owners of Utah and Idaho are making.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

WESTERN WHITE PINE TYPE STUDIED

With its staff of six men and its headquarters at Missoula, Mont., the Priest River Experiment Station carries on forest investigations throughout Montana and northern Idaho. In this region are four large forest types, each with its own problems of culture, harvesting and reproduction to be solved. The present activities of the station are confined chiefly to the western white pine type, in which the center of operations is located near Priest River, Idaho, where a field station, laboratory and demonstration forest of 4,000 acres were established 14 years ago.

Much of the work now under way deals with experiments seeking the most suitable silvicultural methods of thinning and harvesting stands to secure the greatest yield and the most desirable reproduction. There are permanent sample plots trying out the various methods of cutting and endeavoring to determine the yield in board feet per acre that may be expected at various ages.

These sample plots with their individually tagged trees are remeasured at five-year intervals. In one of the projects of the station, the series of plots contains a total of over 20,000 tagged trees. An interesting feature of the work is the great duration of these experiments—imposed, of course, by the long rotation of forest crops. The thinning plots, for example, established in 60-year-old stands, will be under observation until these stands are 90 or 100 years old. The methods-of-cutting experiments will be followed for 20 or 30 years. The growth and yield plots in the youngest stands will have a life of 70 years.

Nursery and planting experiments now under way deal largely with chemical eradication of weeds in the nursery, the stimulation of slow-growing species in the seed beds, the relation of root hairs to root pruning, and methods of overcoming low survival in field planting. Forest fire studies aiming chiefly to predict dangerous fire conditions are also conducted at the station.

Among the important results that have pointed the way to improved forestry practice is the discovery that western white pine reproduction is secured readily from seed accumulated in the duff. Another finding is that heavy cutting without shelter is permissible on north slopes, but lighter cutting leaving a

shelter is necessary to establish reproduction on south slopes. The station has also helped in solving the problem of the vast forest areas destroyed by fires in northern Idaho. By determining that single burns invariably reproduce and that double burns do not, and why, it has been shown conclusively that artificial reforestation is not necessary where a single fire has burned, even though all the mature trees have been killed. At the large Forest Service nursery which serves this region all the weeding was formerly done by hand. By the process of chemical weed eradication, worked out by the experiment station, a great saving is effected annually in the operation of the nursery. Likewise white pine nursery stock is being produced more economically by the discovery, after repeated experiments, of how to eliminate the costly operations of shading and mulching; as well as the ill effects of frost heaving.

WITH EXTENSION FORCES

INTEREST PARENTS IN FARM RECORDS

Few farmers of Floyd County, Iowa, kept records and accounts, County Agent W. A. Dickinson found three years ago in studying local farm problems preparatory to blocking out his program of work. If the boys and girls on the farm could be interested in farm records, he decided, they might not only assist their parents in advantageous planning of the farm business but would, themselves, obtain practical training in the use of good business methods on the farm. Boys' and girls' farm record clubs were therefore a part of his program. So well did the plan succeed in interesting both the young people and their parents that a majority of the boys and girls who were enrolled the first year have increased their record-keeping enterprises each succeeding year with the enthusiastic support of their parents.

Three farm-record clubs were organized in the county early in 1922 with 45 members. At the first meeting, after electing officers, each member began his farm-business record by making the opening inventory of livestock and feed, dating from January 1. Farm business receipts and expenses were brought up to date for the next meeting and machinery and farm improvements listed in the depreciation schedule.

The boys and girls on the program committee met with the county agent and L. G. Allbaugh, farm management specialist, a few days later. Plans were made for monthly meetings throughout

the year. Some of these were to be attended by the specialist to discuss farm layouts, the depreciation schedule, method of summarization and, at the final meeting, to assist in summarizing the books. Club members and their local leaders were to conduct the other meetings to discuss questions about the records or other problems. Games and stunts were also included.

Before the clubs had been going very long, the boys and girls decided they would like to know something about labor records, single enterprise cost accounts, and complete cost accounts, and these subjects were assigned to members for discussion at club meetings.

In the fall, copies of their farm records, farm maps, and layouts were prepared by the boys and girls and exhibited with stories of their work at the local district fair and later at the State fair. To add the stimulus of contest, demonstration teams were also trained, and in 1924 Floyd County's farm-record team, competing with teams demonstrating other lines of club work, won first place at the State fair and fourth at the interstate fair, Sioux City.

When time came for summarizing the first year's accounts, the club members brought their books and spent from 9 a. m. to 3.30 p. m. completing their records and figuring the profit or loss with the assistance of Mr. Allbaugh and Mr. Dickinson. This all-day session with figures added to their enthusiasm and before adjourning, they asked for instructions to start their next year's records. At this time Mr. Dickinson resigned and the clubs were continued by his successor, William Dietrich.

New members added followed the plan of the previous year. Former members were given an average record, made up from records of 11 Floyd County farms as a basis for comparing the figures in their own records. Each took one of the factors of success and discussed it with reference to his own business. They also kept a single enterprise cost account on corn and hogs.

The records of every member were ready for summarization at the end of 1923. Several parents attended the final meeting and worked with the club members on their final accounts. With the exception of a few members who were to be in school away from home the next year, the old members enrolled for 1924 and added new members to the clubs. The 100-per-cent-completion record was repeated by the 1924 Floyd record club.

The parents, in every instance, have been much interested in the records. Changes in the organization of farms to a more profitable plan have resulted and the boys and girls, themselves, express their intention of continuing record work.

BRIEF REVIEWS OF NEW BULLETINS

Work of the Sheridan Field Station for the Seven Years from 1917 to 1923, Inclusive. By R. S. Towle, associate agronomist, office of dry-land agriculture investigations, Bureau of Plant Industry. Pp. 31, January 5, 1925. (Department Bulletin 1306.) Price, 5 cents.

Seven years of study of dry-land agriculture at the Sheridan Field Station, located near the Wyoming-Montana State line, have yielded some results of importance which have been published in this bulletin. The report includes a discussion of the work done with crop rotations and tillage methods over a period of six years; with varieties of grain and forage crops, rates and dates of seeding grain crops, and methods of seeding forage crops over a seven-year period; experiments with potatoes, and shelter belt investigations.

Chemical Eradication of the Common Barberry. By Noel F. Thompson, associate pathologist, office of cereal investigations, Bureau of Plant Industry. Pp. 4, December, 1924. (Department Circular 332.) Price, 5 cents.

A number of different chemicals for killing the bushes are suggested in this pamphlet, but the two most common ones suggested for general use are common salt and kerosene. The circular describes the method of applying these chemicals and the amounts for different sizes of bushes. There are certain obvious advantages of this method over that of digging to eradicate the bushes. The work is not only easier to perform but more efficiently done in stony ground than the old method of digging.

Almond Varieties in the United States. By Milo N. Wood, pomologist, office of horticultural investigations, Bureau of Plant Industry. Pp. 142, pls. 26, figs. 16, December, 1924. (Department Bulletin 1282.) Price, 30 cents.

A variety of almond is not satisfactory unless it fulfills the requirements of the grower, the dealer, and the consumer. Most of the varieties now grown in California are unsatisfactory when considered in this light and the present unsatisfactory condition of the industry is due largely to the failure to appreciate the fact that in the choice of a variety for cultivation all of the factors relating both to production and marketing must be taken into account. It would seem that much of the confusion now prevailing in the almond industry might have been avoided if complete and convincing data regarding varieties had been available for the grower. The investigations, of which this bulletin is the result, were undertaken with the hope of supplying this information, while at the same time laying a foundation for the breeding of better almond varieties. An attempt has been made to analyze the merits of all the known varieties to the fullest extent possible, in order to provide future planters with maximum information relative to varieties and also to place the facts before the growers having trees of varieties which should be top-worked.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of January 3-10, 1925. Copies of these publications may be obtained from the stations issuing them:

Outlines of courses of instruction in agricultural nature study for the rural schools of California. O. J. Kern. (California Sta. [Pub.], pp. 100, figs. 60. Revised Dec., 1924.)
 Potato leaf roll in Indiana. M. W. Gardner and J. E. Kendrick. (Indiana Sta. Bul. 284, pp. 22, figs. 8, July, 1924.)
 Cooperating under the Iowa cooperative laws. F. Robotka. (Iowa Sta. Circ. 95, pp. 16. Nov., 1924.)
 Double entry accounts for farmers. J. A. Hopkins. (Iowa Sta. Circ. 96, pp. 24, figs. 8, Oct., 1924.)
 Landlords of Nebraska farms. J. O. Rankin. (Nebraska Sta. Bul. 202, pp. 38, figs. 4. Nov., 1924.)
 Ice-cream formulas and standardization. H. P. Davis, P. A. Downs, and B. Masurovsky. (Nebraska Sta. Bul. 203, pp. 23. Nov., 1924.)
 Marketing dairy products. Creameries and cooperative cream shipping stations in North Dakota. A. H. Benton. (North Dakota Sta. Bul. 182, pp. 40, figs. 21. Oct., 1924.)
 New insecticides for the Mexican bean beetle and other insects. S. Marcovitch. (Tennessee Sta. Bul. 131, pp. 19, figs. 7. Oct., 1924.)
 Commercial fertilizers in 1923-24. G. S. Fraps and S. E. Asbury. (Texas Sta. Bul. 322, pp. 61. Sept., 1924.)
 Effects of winter rations on pasture gains of beef calves and yearlings. E. W. Sheets and R. H. Tuckwiller. (West Virginia Sta. Bul. 186, pp. 34, figs. 13. Aug., 1924.)
 Adjusting agricultural production and distribution in south central West Virginia to meet home market demands. W. W. Armentrout, H. T. Crosby, and H. I. Richards. (West Virginia Sta. Bul. 188, pp. 64, figs. 22. Oct., 1924.)

Some Famous Cows Enlisted in Measurement Study of Production

A number of agricultural colleges and breeders of dairy cattle are now cooperating with the Bureau of Dairying in the study of the relationship of the outward appearance of dairy cows to the size of internal organs and to milk and butterfat production. The Pennsylvania State College, University of California, and Cornell University already have contributed records which they have made of cows discarded from their herds. Three more colleges—North Dakota, Kansas, and Washington—are ready to take up the work, and there are several more that have signified an intention to participate in this important investigation, which probably will be continued for several years.

When this work was begun about a year ago, the department made external measurements of some 400 cattle at packing plants, and after their slaughter made a study of the internal organs as to weight and other measurements. At the present time the principal effort being made is to find not only the relationship between outside measurements and internal organs, but any relationship which may exist between outside measurements and the size of organs,

and between size of organs and capacity for milk and butterfat production.

So far between 30 and 40 cows of known records have been slaughtered and measured after the outside measurements had been made. Some famous producers are in the list, including the long-time producing champion Jersey cow Sophie 19th of Hood Farm, which was presented to the department. The mounted skeleton of this famous cow is kept by the Bureau of Dairying for scientific study. Measurements have been taken of the United States champion butterfat cow, the Holstein-Friesian, May Walker Ollie Homestead, with a record of 1,218 pounds of fat in a year. Permission had been granted the department to secure both ante-mortem and post-mortem data on the Holstein, Tilly Alcatraz, one-time world-record milk producer, but the unfortunate appearance of foot-and-mouth disease in the herd made it impossible to use her in this way.

At the time of the last national dairy show preliminary measurements were made of some of the best producers exhibited. Several owners of high-producing cows measured at this time volunteered permission to the department to follow through its investigation when these animals are ready to be retired from the herd. The department is glad to accept such offers of cooperation from owners of outstanding animals. Where State colleges are cooperating they will make the measurements for all cows offered by breeders in the State, as well as those in their own herds.

CIVIL SERVICE ANNOUNCEMENTS

Assistant telegraph operator, \$1,500; telegraph operator, \$1,680. Vacancies in the departmental service, Washington, D. C., and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$1,860 a year for assistant telegraph operator and up to \$2,040 a year for telegraph operator. There is at present a vacancy in the position of telegraph operator at \$1,680 a year, in the Bureau of Agricultural Economics, Pittsburgh, Pa. Applicants should state in their applications where they are willing to accept appointment. Applicants should at once apply for Forms 2415 and 1140, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes February 17, 1925.

Associate biological chemist (nutrition and physiology), \$3,000. A vacancy in the Bureau of Animal Industry, and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes February 17, 1925.

PRINCIPAL LIBRARY ACCESSIONS

HORTICULTURE

- Barnes, P. T. House plants and how to grow them. Garden City, N. Y., Doubleday, 1923.
- Bennett, I. D. The vegetable garden. rev. Garden City, N. Y., Doubleday, 1923.
- Dybowski, Jean. Traité de culture potagère. 5. éd. Paris, Baillière, 1924.
- Weathers, John. My garden book. London, Longmans, Green, 1924.

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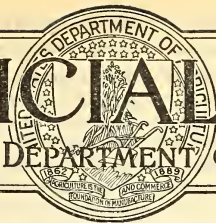
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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 4

DEPARTMENT PREPARED TO COMBAT PLAGUES

Bureau of Animal Industry Has Large Supply of Rinderpest Serum in Storage

Preparedness for war against animal diseases has been carried out by the Bureau of Animal Industry to an extent little realized by the general public. Diseases that the average man never heard of, and some which do not exist on this continent, are studied and, when possible, specific weapons are forged for their control should they appear within our borders.

Conspicuous among these destructive animal plagues is rinderpest, the most deadly of the diseases of cattle, which occurs in Asia, Africa, and certain parts of Europe, and recently broke out in Australia where it was eradicated by slaughtering all infected and exposed animals, the method used to suppress foot-and-mouth disease in this country.

Will Have Wall of Immunes

Rinderpest has never broken through the barriers maintained by the department, but should this great misfortune occur the Bureau of Animal Industry, says Dr. John R. Mohler, chief of that bureau, is prepared to take immediate steps to wall off the infected area by inoculating all cattle in a belt surrounding it. This step to protect the livestock industry was one of Doctor Mohler's first acts when he became chief of the bureau. Quick protective action of this sort will be possible in such emergency because the bureau has in cold storage at Washington a large supply of rinderpest serum which will produce immunity in cattle inoculated with it.

The serum, which is sterile and therefore of no danger to our herds, is pro-

duced in the Philippines, where the disease has existed for a long time. Cattle which have recovered from the plague are hyperimmunized by injecting into their blood active virus of the disease, which gives them still more resistance to it. The serum is made from the blood of these animals. This serum in cold storage fortunately will retain its protective power for several years. The immunity acquired by treated cattle is lasting. A supply of the serum has been kept on hand at the bureau for the past six years. Enough of it is kept available to inoculate several thousand head of cattle.

Like Nature's Method

The walling-off method planned by Doctor Mohler may be compared to the method used by the human and animal bodies' when they encyst or wall off points of infection to prevent the spread of bacteria to other tissues. The body uses lime to do this important work, which is the same thing a mason uses.

The method may be compared to the wetting down of buildings in the vicinity of a fire to prevent the spread of flames.

Since a serum for foot-and-mouth disease has been known for a number of years, there arises the natural question as to why this disease has not been fought with serum instead of rifles and burial in lime. Foot-and-mouth disease could be controlled in the same way, if the serum had lasting qualities of rinderpest serum. Unfortunately the serum from cattle immune from this well-advertised plague has little potency. Furthermore, the immunity, when it is conferred, lasts only six weeks.

The local type of farmers' marketing organization was the first historically in the United States, and local associations are more numerous than any other kind. About 50 federations of local organizations are in existence, and about 50 centralized or State-wide associations.

REFORESTATION BILL PASSED IN THE HOUSE

Fund Will Help Pay Expenses of Forest Service and Con- struct Certain Buildings

An act (H. R. 5939) designed to facilitate and simplify the work of the Forest Service and to promote reforestation has been passed by the House. It provides that all moneys received as contributions toward reforestation or for the administration or protection of lands within or near the national forests shall be covered into the Treasury and shall constitute a special fund. This fund under the bill is made an appropriation for the payment of reforestation charges and other expenses of the Forest Service. Authority is also given the Secretary of Agriculture to construct certain buildings and incur other expenditures for national forest purposes.

Senator Norris, of Nebraska, has introduced a bill (S. 3978) authorizing the Secretary of Agriculture to cooperate with State officials, crop-improvement associations, or growers of seeds and other interested persons in efforts to encourage the production of seeds "of high varietal purity and quality." He is also given authority to certify to shippers as to the character of seeds grown under such cooperation.

To Adjust Grazing Fees on National Forests

A resolution (S. J. Res. 169) authorizing and directing the Secretary of Agriculture to waive all requirements in respect to grazing fees for the use of national forests during the calendar year 1925 has been introduced by Senator Cameron, of Arizona.

In a bill (H. R. 11669) amending the tariff act of 1922, power would be given the President to transfer articles from the free list to the dutiable list, when investigation shows that articles on the

free list cost more to produce in the United States than in competing countries. This bill has been introduced by Representative Andrew, of Massachusetts.

The declared object of the measure is to protect productive enterprises well established in this country. Thirty days after investigation had shown the existence of the conditions cited in the bill as justifying the transference of an article from the free list to the dutiable list, the President would be required to proclaim the necessary changes in classification and to fix a tariff duty sufficient to achieve the desired result. It is provided, however, that no duty exceeding 25 per cent ad valorem may be fixed under the terms of the bill.

Bill Will Abolish Port Differentials

Senator Butler, of Massachusetts, is the author of a bill (S. 3927) to prevent the maintenance of port differentials and other unwarranted rate handicaps. It provides that common carriers may not maintain rates to or from any port that are higher than corresponding rates in effect to or from any other port on the same seaboard. The preference of any port by the maintenance of port differentials or other differences in rates is forbidden.

Ocean carriers other than tramp vessels are required under the bill to maintain equal rates to the same foreign ports from ports on the same seaboard. It would be unlawful for ocean carriers to maintain port differentials. Steamship lines would be permitted to maintain rates to any foreign port as low as those maintained between any other port in the United States and the same foreign port.

The Muscle Shoals bill (H. R. 518), a substitute for the original Underwood bill, has been passed by the Senate and sent to conference.

A river and harbor appropriation bill (H. R. 11472) has been passed by the House, carrying an appropriation authorizing the Secretary of Agriculture to permit the War Department to take earth, stone, and timber from the national forests for use in the construction of river and harbor and other works.

Representative Williamson, of South Dakota, has introduced a bill (H. R. 11726) authorizing the creation of a national memorial in the Harney National Forest.

To Continue Compensation For Field Employees

The conference report on the Treasury and Post Office Department appropriation bill has been adopted by the House and the Senate. This bill contains an

item applicable to all departments, providing for a continuance during the fiscal year 1926 of the rates of compensation for field employees that have been in effect during the present fiscal year. These rates are thus made to conform to the rates provided by the classification act of 1923 for employees in the District of Columbia.

The House has passed the following bills:

H. R. 11500, to amend an act entitled "An act to consolidate national forest lands."

H. R. 11211, for the inclusion of certain lands in Plumas, Eldorado, Stanislaus, Shasta, and Tahoe National Forests.

H. R. 11357, authorizing the President of the United States to restore to the public domain lands reserved by public proclamation as national monuments, and validating any such restorations heretofore so made by Executive order.

H. R. 2689, to consolidate certain lands within the Snoqualmie National Forest.

H. R. 5612, to authorize the addition of certain lands to the Oregon (Mount Hood) National Forest.

H. R. 9028, to authorize the addition of certain lands to the Whitman National Forest.

H. R. 9494, to enable the board of supervisors of Los Angeles County to maintain public camp grounds within the Angeles National Forest.

H. R. 5555, to include certain lands in the county of Eldorado, Calif., in the Eldorado National Forest, Calif.

Will Issue Reports on Outlook For 1925 Agriculture

The series of reports on the economic outlook for leading crops and livestock produced in the United States this year and for the foreign and domestic demand will be issued by the Bureau of Agricultural Economics under dates of February 2, 4, and 6.

The reports will be prepared by bureau economists based upon all available data from both foreign and domestic sources, so that farmers will have a comprehensive view of the general agricultural outlook. Eighteen reports will be issued covering dairy products; poultry and eggs; beef cattle; sheep and wool; hogs and corn; fruits, vegetables, and nuts; wheat, rye, and rice; cotton; feed crops; sugar; flaxseed; tobacco; potatoes and sweet potatoes; foreign demand; domestic demand; factors affecting production

costs; credit; and the use of land and labor.

The reports issued on February 2 will deal with the demand situation in the United States and foreign countries and the outlook for the principal cash crops, such as cotton and the bread grains. The February 4 reports will relate to the outlook for livestock production and the production of feed crops. The February 6 reports will deal with the outlook for minor crops, review the agricultural credit situation, and outline the situation relative to the major expenses of agricultural production such as fertilizer, labor, and machinery. The entire report will be printed as a single circular, to be available for distribution as soon after February 10 as possible.

It is the plan of the Bureau of Agricultural Economics to release the outlook reports in time to give farmers a chance to formulate their intentions, after which the bureau will issue its intentions-to-plant report. The agricultural outlook reports inaugurated last year were well received by agricultural workers and farmers and utilized as a basis for planning farm operations.

RECOGNIZES U. S. MEAT INSPECTION

An emphatic indorsement of the effectiveness of the meat-inspection service of the department is a recent decision of the English Government to waive in the case of American products certain new restrictions on the importation of edible animal fats. Enforcement of these new restrictions would have imposed unnecessary as well as burdensome guaranties regarding the condition of all animals from which these products come. Such extra requirement was considered unnecessary by department officials because of the efficiency of the meat-inspection service, and through Dr. R. W. Tuck, Bureau of Animal Industry representative at London, the English authorities were convinced of the satisfactory nature of the regular inspection and of the wholesomeness of products bearing the usual export stamp. Negotiations were carried on through the Department of State, and as a result the new requirements will be waived in the case of these products from the United States.

The trade with England in these commodities amounts to several million pounds monthly and is one of the big outlets for the surplus produced by American hog and cattle raisers. Saving this business from unnecessary and disturbing exactions is a tribute to the economic value of our meat-inspection service.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

APPOINT NEW BOARD OF TEA EXPERTS

A new board of tea experts has just been appointed by the Secretary of Agriculture, as required by the tea-inspection act. It includes Mr. George F. Mitchell, supervising tea examiner, Bureau of Chemistry, Washington, D. C., and the following six representatives of the tea trade: J. J. McNamara, New York, N. Y.; H. G. Woodworth, Boston, Mass.; Arthur T. Hellyer, Chicago, Ill.; A. P. Irwin, Philadelphia, Pa.; E. R. Rogers, Seattle, Wash.; and Norman H. Wear, San Francisco, Calif. Of the six members appointed from the trade, three are from the tea importing trade and three from the tea jobbing trade.

DECREASE IN SHEEP AND LAMBS

There was a decrease of about 163,000 head, or nearly 4 per cent, in the number of sheep and lambs on feed January 1, 1925, from the number January 1, 1924, in the Corn Belt and Western States, according to the estimate of the department. The estimated numbers were 4,081,000 this year and 4,245,000 last. In the Corn Belt States the decrease was about 120,000 head. In the Western States the number on feed was about 45,000 less than on January 1 a year ago.

FEWER TEA REJECTIONS FOR 1924

A smaller percentage of tea was rejected at ports of entry during the fiscal year 1924 than has been rejected during any other fiscal year for the last 10 years, according to the report of the supervising tea examiner of the Bureau of Chemistry of the department. The variety of tea showing the largest rejections was Canton Oolong, a tea that is consumed principally by the Chinese in this country. This was also the variety that showed the largest rejections during the previous fiscal year. The rejections for Japan green tea during this fiscal year were very much less than the preceding fiscal year, due to the fact that shipments of this variety were free from an excess of woody stems.

EUROPEAN WINTER WHEAT REPORTED

Winter seedings of wheat in Europe reported to date to the department by the International Institute of Agriculture

at Rome are below last year, reports from seven European countries showing a reduction of about 4 per cent. The decrease in Europe, however, is not sufficient to offset the increase in areas seeded in the United States and Canada, the department says, the area seeded in nine countries totalling 64,469,000 acres as compared with 62,698,000 acres last year.

AUSTRALIAN WHEAT CROP LARGE

The Australian wheat harvest is nearing completion and the forecast of 162,000,000 bushels received by the department from the International Institute of Agriculture at Rome is the highest production recorded in the history of the Commonwealth with the exception of the year 1915-16, when the crop amounted to 179,000,000 bushels.

ARGENTINE CROPS DECREASE

The second forecast of the Argentine wheat crop just received by the department from the International Institute of Agriculture at Rome places production at 191,433,000 bushels, as compared with 247,036,000 bushels, the final estimates for 1923-24. This second forecast is 1,000,000 bushels more than the first estimate of November 15, but the increase is so slight that it will hardly affect the exportable surplus from the current harvest, which was estimated at 120,000,000 bushels earlier in the season.

PUBLIC OPINION ON LIVESTOCK WORK

To keep in touch with public opinion on its various activities, the Bureau of Animal Industry for several years has kept a tabulated summary of sentiment as expressed by the agricultural press, correspondence, and other expressions of opinion. Known as the "Bureau Range Finder" and compiled semi-monthly, the summary also makes note of favorable comment, criticisms, and activities suggested from time to time. It is issued in mimeographed form and distributed to the officials in charge of various lines of livestock work in the Bureau of Animal Industry and the department.

During the calendar year 1924 foot-and-mouth disease received by far the greatest comment of any activity—nearly a third of the total. The suppression of tuberculosis and of hog cholera were second and third in order, judging from the number of times discussions of these subjects were observed. The next most popular activity, according to the summary, was the improvement of livestock through the better-sires, better-stock

campaign. Eradication of cattle ticks ranked fifth, this, however, being work limited chiefly to the South. Federal meat inspection, though an outstanding activity affecting practically the whole country, received comparatively little comment, so generally accepted has this work become.

The most popular activity was the campaign against tuberculosis, with 50 distinctly favorable comments out of the grand total 1,938, but the manner in which the bureau suppressed foot-and-mouth disease was a close second with 47 favorable expressions of opinion. The better-sires campaign was third. While the bureau officials rely chiefly on field representatives for their knowledge of sentiment regarding the work, the Range Finder gives impersonal supplementary information.

T. B. TEST INCREASINGLY POPULAR

With 9,000,000 cattle already under supervision for the eradication of tuberculosis, veterinary officials of the department and the various States are making efforts to meet the continued demands for additional testing. A summary of the status of the work up to December 1 shows a waiting list of 226,534 herds containing more than 2,500,000 cattle. This list represents applications for testing in 34 States, the others having been able to handle the testing as fast as requested.

The States which had "clear slates" in this respect at the time the summary was prepared were Arkansas, Delaware, Georgia, Kentucky, Louisiana, Missouri, Montana, Nevada, New Jersey, Oregon, Utah, Virginia, Washington, Wyoming, and the District of Columbia.

During November official veterinarians tested more than 50,000 herds or lots containing more than 600,000 cattle. Of this number, about 18,000 cattle reacted as tuberculous and were removed from the herds, thereby leading to the establishment of accredited herds and areas.

At the January luncheon meeting of the Indianapolis Unity Club the election of officers for the ensuing year was held and the following members were elected: President, H. A. Rhoades; vice-president, J. D. Stillwell; secretary-treasurer, F. H. Ackelov. Robert C. Butner, of the Food Products Inspection Bureau, gave a very interesting talk on the efforts being made by his bureau to put into effect a uniform system of marketing by which lists of approved dealers and consumers who subscribed to the scheme would be published for the benefit of producers and consumers.



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DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel, the following employees in the department were retired during the month of November, 1924:

Mr. Albert J. Davis, an assistant observer in the Weather Bureau, at Norfolk, Va., was retired on account of age on November 4, 1924. He was born on November 5, 1854, and had served practically continuously in this department since July 1, 1891, the date on which the meteorological section of the Signal Corps was transferred to and made a part of the Weather Bureau. Prior to this time he served in the band of the Seventh Cavalry from August 8, 1876, to July 3, 1879, and in the bands of the Eighth Cavalry and the Sixth Cavalry from April 20, 1881, to April 19, 1891. During the interval of separation from the service of the Weather Bureau he served as an enlisted man in the Arsenal Band at St. Louis, Mo., from November 7, 1894, to September 28, 1897. The total amount of his military service was 17 years 9 months 16 days, and the total amount of his service in the Agricultural Department was 27 years 10 months 12 days, making a combined service, both military and civil, of 45 years 7 months 28 days.

Mrs. Nellie Rice, a junior clerk in the office of publications, was retired on account of age November 8, 1924. She was born on November 8, 1852, and was 72 years of age on the date of retirement. She had served continuously in this department since March 1, 1902, a period of 22 years 8 months 8 days, being assigned the entire time to the Division of Publications or Office of Publications. This service was supplemented by a period of approximately 12 years in the Government Printing Office.

Miss Alice E. Evans, an underclerk in the Office of Publications, was retired on

account of age on December 25. She was born on December 26, 1854, and was 70 years of age on date of retirement. She served in this department a total period of 2 years 6 months 15 days, and had been with the Bureau of Pensions, Department of the Interior, from January 1, 1895, to November 30, 1923, a period of 28 years and 10 months, a total governmental service at date of retirement of 31 years 5 months 15 days.

GUY F. ALLEN SUCCEEDS HOWARD BAKER

Howard Baker, who was assistant to the Director of the Bureau of the Budget in charge of matters pertaining to the Department of Agriculture coming before the Bureau of the Budget, resigned from that bureau at the close of December and the department has been advised that Guy F. Allen, executive assistant to the Director of the Budget, has been designated to succeed Mr. Baker in this capacity. While the staff of the department regrets to learn of the resignation of Mr. Baker, we are well acquainted with Mr. Allen through many transactions with him in his capacity as executive assistant to the Director of the Budget, and are very glad to learn of his selection to succeed Mr. Baker, which will bring him into even more intimate relationship with this department.

NOTED BRITISH SCIENTIST PAYS VISIT

Sir Daniel Hall, scientific adviser to the Minister of Agriculture of England, a noted agricultural chemist and former director of the Rothamstead Experiment Station, visited Washington the first half of the week. Sir Daniel lectured before the scientific staff of the department in the auditorium of the National Museum, taking "Agricultural research and the community" as his title. On Tuesday evening the scientists of the department gave Sir Daniel a banquet at which Secretary Gore, British Attaché Leander McCormick-Goodheart, and Sir Daniel spoke, Dr. L. O. Howard acting as toastmaster.

VETERAN POST BENEFITS FROM SALES

Federal Post, No. 824, Veterans of Foreign Wars of the United States, the original Department of Agriculture overseas veteran organization, wishes to express its thanks to its many friends in the department for their hearty cooperation in the successful conclusion of its holiday sales for the benefit of the post and auxiliary relief funds. The total

profits on the sales of pecans and other nuts and fruit amounted to \$214.98. In addition, through the efforts of Mrs. A. G. Guthridge, \$104 was realized on the sale of fruit cake, which amount was divided between the post and its auxiliary. As the result of addition to the soldier relief fund, it will be possible now for the post and auxiliary to extend even more relief than it has in the past to soldiers and their families. Membership in the post is open to Government employees who have seen military or naval service overseas in any war, and in the ladies auxiliary to all wives, mothers, sisters, or daughters of overseas men. Lester E. Eliff, of the Bureau of Agricultural Economics, was installed as the new commander of the post on January 26, 1925.

More aid is planned as a result of the profits which are expected to accrue from the forthcoming sale of Vermont maple sugar and sirup. Department employees can secure maple sirup at \$3.10 per gallon and maple sugar at \$3.25 per 10-pound pail by application to Mrs. Guthridge, whose office is in the basement of the main building and whose branch telephone number is 171, or to Commander Eliff. These maple products come from Bell's Camp, East Hardwick, Vt., and as the output from this camp varies each season an early order will insure the post a larger delivery. Orders should be in by February 1. Delivery will be made in April.

Prof. V. Bjerknes, in charge of the meteorological division of the Geophysical Institute at Bergen, Norway, was a recent visitor at the department. Professor Bjerknes is a well-known student of hydrodynamic and thermodynamic problems bearing upon meteorology and hydrography. During the past four years his name has been particularly identified with the polar-front theory of atmospheric circulation, which he developed at the Bergen institute in conjunction with his son, J. Bjerknes, who paid a visit to the department last September, and other members of the staff of the institute.

The librarian-elect of the International Institute of Agriculture, James G. Hodgson, was a recent visitor at the department. Mr. Hodgson has been assistant librarian of the University of Arizona until he resigned to accept the position in Rome. The recently appointed assistant librarian of the international institute is Mlle. Denise Montel, who visited the department last spring. She has been librarian of the Institute Colonial at Marseille, France.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Why is it that the field employees of the Department of Agriculture are allowed 15 days' annual leave and 15 days' sick leave a year, when field employees of the other departments and the employees of the Department of Agriculture in Washington are allowed 30 days' annual and 30 days' sick leave?

Answer. The reason field employees are granted 15 days' annual and 15 days' sick leave a year is that the law so provides.

"The employees of the Department of Agriculture, outside of the city of Washington, may hereafter, in the discretion of the Secretary of Agriculture, be granted leave of absence not to exceed 15 days in any one year, which leave may in exceptional and meritorious cases where such an employee is ill, be extended, in the discretion of the Secretary of Agriculture, not to exceed 15 days additional in any one year. (Act May 23, 1908, 35 Stat. 251-267.)"

During the past year an attempt has been made to have this law changed so as to grant field employees 30 days' annual and 30 days' sick leave, but so far without success.

Question. On what phases of home economics has the department published bulletins?

Answer. Over 100 popular and technical bulletins on foods and nutrition resulting from the research work of this department are now available free or by purchase for nominal sums. These represent the work now organized under the Bureau of Home Economics as well as of the Bureaus of Chemistry and Animal Industry. A few publications have been issued on housing and equipment, textiles, and some of the economic problems of the home, but these are far outnumbered by the food and nutrition bulletins.

Question. What is meant by "fly-free date"?

Answer. By the "fly-free date" we mean the date on which winter wheat may be sown to escape Hessian fly injury.

Question. Do native birds eat the introduced Japanese beetle?

Answer. They certainly do and must be reckoned among the important natural checks upon this pest. Investigations by the Biological Survey in New Jersey have revealed that 16 kinds of birds prey upon the Japanese beetle, and it is probable that all our native birds taking western districts to other parts of the

insect food of such size also feed upon it. According to field observations made in New Jersey and subsequent examination of the stomachs collected, the most important bird enemy proved to be the purple grackle; the stomach contents of all these birds which were collected showed the presence of Japanese beetles to an average extent of two-thirds of the total food. Other birds markedly fond of these beetles and the percentage of beetles in their food were: Meadowlark, 50.7; starling, 42.3; cardinal, 38.6; catbird, 14.8. The bobwhite, kingbird, crested flycatcher, crow, red-winged blackbird, English sparrow, vesper sparrow, song sparrow, brown thrasher, wood thrush, and robin also were found preying upon the pest.

Additional Precautions Taken Against the Pink Bollworm

The recent enormous increase in the cotton acreage in districts in western Texas and New Mexico which are infested by the pink bollworm, has greatly increased the difficulties in safeguarding the remainder of the Cotton Belt against that important pest. The danger is greatest in reference to cottonseed in which the insect has been known to live for over two years.

At the present time the facilities for crushing the seed in the western districts are far from adequate. There are five mills in operation but three of them are very small and the combined capacity of the five is not sufficient to handle the local seed. Under these circumstances the State of Texas now permits cottonseed from the western districts (except the Big Bend) to go to a group of five designated mills in Fort Worth, Dallas, and Garland. It is estimated that the shipments during the present season will amount to about 400 carloads. Each mill is required under bond to crush this seed expeditiously and to comply with specified rules of handling to prevent the escape of the insect. All of the seed is disinfected in heating machines and other precautions are taken in the form of surface fumigation before shipment and the cleaning and fumigation of the cars at the time of unloading.

However, despite these precautions there is a very considerable chance that infestation may escape. This situation was recently discussed at Washington by the Federal Horticultural Board, and a representative of the Texas State Department of Agriculture. It was decided that there is entirely too much risk involved in the shipment of seed from the State. It was, therefore, agreed to safe-

guard the situation further with reference to the crop of 1925 by not allowing any of the western seed originating in districts where infestation is found to go to any points in the interior. This early announcement is made so that there will be ample time to provide adequate local crushing facilities within the western districts for the crop of 1925.

It was also decided to take further precautions with relation to lint originating in districts where the infestation by the pink bollworm is heavy. That is to require that all such lint be fumigated in vacuum before movement out of the district in which it is produced. At present the Big Bend district is the only one in which a heavy infestation exists, and this will require the erection of a vacuum fumigating plant at some nearby point. There is a possibility that heavy infestation in the crop of 1924 will be found in places outside of the Big Bend. If this is the case it will lead to the requirement of vacuum fumigation elsewhere.

Uniform Food and Drug Laws For Pan American Countries

The Pan American Sanitary Conference, at a recent meeting in Habana, Cuba, adopted a resolution recommending that all countries represented at the conference enact uniform food and drug control laws modeled after the Federal food and drugs act of the United States.

As there is at the present time little or no effective control of the purity and labeling of foods and drugs in many of the countries in the Pan American Union, those countries are becoming, to some extent at least, a dumping ground for products that are excluded from countries where effective control is maintained. Manufacturers and shippers of food and drug products who do an international business would find this a solution of their problem of manufacturing and labeling products to meet the varying legal requirements of different countries in so far as these particular countries are concerned. If food and drug legislation in all the American countries follows a uniform model, what is legal in one of the countries would be legal in the others. Uniform food and drug control legislation in all the American countries would also make easier the work of enforcing such laws.

While it is not to be expected that food and drug legislation would be exactly alike in method of administration in the various countries, there is no sound reason why all provisions relating to adulteration and misbranding and all standards and definitions should not be alike.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

STABILIZING THE LAMB MARKET

Stabilizing the eastern lamb market is the object of a series of annual campaigns undertaken by the department. The work was initiated as a result of many complaints from producers, shippers, and dealers regarding violent fluctuations in lamb prices at Jersey City. A study of conditions indicated that the lamb problem at Jersey City, the gateway for the greatest single outlet for mutton and lamb in the United States, was a production and marketing problem combined, and that its solution was largely in the hands of the producers and slaughterers of eastern lambs. It was shown that although Jersey City occupied the key position in the channel of distribution between the lamb producers and the largest center of lamb consumption—New York City—and although it had the reputation of being the highest lamb market in the country, it was subject to violent price fluctuations during the summer months. These price irregularities were the result of great irregularities in the volume of daily receipts and an excess of inferior lambs in the offerings, most of which arrived unsorted and ungraded. The low quality of the lambs was due largely to the failure of producers to use good breeding stock and proper feeding methods and to dock and castrate ram lambs.

A joint committee representing the various interests involved was formed in 1922 to formulate plans for active campaigns to improve conditions and to carry through the campaigns to satisfactory results. This committee works with the Bureau of Agricultural Economics, the Bureau of Animal Industry, the Extension Service, and the State agricultural colleges. On one hand, the plans called for an improvement on the farm of the quality of eastern lambs, encouragement of home grading and sorting, and development of more orderly marketings. On the other hand, the plan called for payment of premiums for well-grown, well-graded, docked, and castrated lambs when they are actually delivered on the market.

Extension forces in the producing States that are especially involved have been active in taking the work back to the farms of the producers. The Bureau of Agricultural Economics keeps track

of the market, furnished market data, and on several occasions, through its representatives at its New York branch office, has assisted both producers and members of the trade by furnishing advance information regarding shipments of superior lambs.

Through extension leaders, county agents, farm bureau federations, and co-operative shipping associations, information obtained by the Bureau of Animal Industry as to how to improve breeding stock, how to care for the lambs, how to finish for the best marketing seasons, and how to prepare to market is carried direct to the farmer. A service which estimates the spring lamb crop and prospective market movement of such lambs is conducted by the Bureau of Agricultural Economics to enable growers, shippers, and buyers to regulate shipments to meet demand, avoid losses from untimely shipments, and thus aid in stabilizing the lamb market. In February inquiries are made and a report issued about March 1 showing the percentage of early lambs dropped, the condition of ewes, supplies of pasture and feed, and other factors influencing fitness for market to indicate whether the market movement will be early or late and heavy or light.

When the movement of these lambs to market begins in April weekly reports regarding such movements are issued and are continued with the movement into July. This information is wired to Denver for distribution throughout other marketing areas, and in turn similar information from other sections of the country is received from Denver for local release in the East, since the movement of lambs from Tennessee and Kentucky sometimes occurs almost simultaneously with that from southern California.

By utilizing personnel and facilities already at hand, the department is able to conduct its part of this work without much cash outlay, yet the results have been distinctly encouraging.

A home demonstration agent, reporting her work for 1924 in the demonstration of improved homemaking methods, mentions an interesting enterprise developed with the farm women of her county, incidental to the main activities of the year, as follows: "We are bringing cabbage, okra, and beans for the county poorhouse, preserving these in kegs. I have made arrangements with the sheriff of the county to hand over all the kegs secured from raiding stills, so we have no trouble in getting kegs at no expense to the county."

Women From Federation of Clubs Visit Bureau of Home Economics

On January 17 the Bureau of Home Economics served luncheon in the lobby of its building to the board of the General Federation of Women's Clubs, which is made up of the chairmen of the national committees, the executive officers, and other officials of the federation who are gathered in Washington to discuss the policy and program of their organization for the coming year. There were about 100 visitors in all. They were also given an opportunity to meet several of the women executives in other Government departments, such as Miss Mary Anderson of the Woman's Bureau, and Miss Grace Abbott of the Children's Bureau, whose work touches the interests of the General Federation of Women's Clubs.

The foods served illustrated the work of various bureaus and were prepared by the staff of the Bureau of Home Economics. Ham from peanut-fed hogs was furnished by the Bureau of Animal Industry, also chicken and eggs from the experimental poultry plant at Beltsville, Md. American-made Swiss and Roquefort cheese, two products developed by the Bureau of Dairying, and ice cream, also supplied by that bureau, drew many favorable comments from the visitors. The Bureau of Chemistry sent samples of cocoa bread, preserves made from canned peaches, and cassina, a substitute for tea, for the visitors to try. Fresh tomatoes and salted peanuts came from the Bureau of Plant Industry, also flowers for decorating the lobby.

Exhibits were stationed in various parts of the building to give the visitors some idea of the work of the department of interest to women. These included exhibits on rat extermination, rabbit raising, and furs, by the Biological Survey; dehydrated products from the Bureau of Chemistry; a comparison of hard-fat ham, bacon, and lard, with soft-fat products from peanut-fed hogs from the Bureau of Animal Industry; nutrition charts used in cooperative extension work; in addition to displays of the work in home economics.

The Spokane U. S. D. A. Club met at a noon luncheon Wednesday, January 14. Nine divisions of the Department of Agriculture were represented. The following officers were elected for the coming year: President, George Hardgrove, Office of Federal Grain Supervision; vice president, G. Ray, Bureau of Agricultural Economics; secretary-treasurer, Mrs. L. B. Gerry, Bureau of Agricultural Economics.

BRIEF REVIEWS OF NEW BULLETINS

Greenhouse Tomatoes. By James H. Beattie, associate horticulturist, Office of Horticultural Investigations, Bureau of Plant Industry. Pp. 25, figs. 7. December, 1924. (Farmers' Bulletin 1431.)

Greenhouse tomatoes ripened on the vine are superior in flavor to those grown outdoors in warm sections and picked unripe in order to get them to the distant consumer without undue loss, according to this study made by the department. The greenhouse owner must make a large investment in houses and equipment, and he must be prepared to spend large sums for the maintenance of conditions suitable for this exacting crop. On the other hand, a grower 2,000 or more miles from the markets must spend large sums for picking, packing, transportation, and handling before his crop can be realized upon. The vegetable-forcing industry is increasing in importance, and the tomato is receiving its full share of attention.

Laws Applicable to the United States Department of Agriculture, 1923. Embracing acts and provisions of a permanent or not plainly temporary character in force at the close of the fourth session of the Sixty-seventh Congress, March 4, 1923. Compiled by Otis H. Gates, attorney, Office of the Solicitor. Pp. 897. January, 1925.

This volume contains copious extracts from all laws deemed to affect the department as well as measures relating to it specifically. Only laws actually existing and not temporary in their character are given. Provisions of a temporary nature and those that have been executed or repealed, or that have expired, are omitted. Matter contained in amending acts is incorporated. In some cases acts apparently not within the scope of the compilation are included because they relate to other acts that are within the plan of the work. The publication retains the text of all permanent laws relating to the department that were in force at the close of the fourth session of the Sixty-seventh Congress.

ADDITIONAL PUBLICATIONS

Soil Survey of Spartanburg County, S. C. By W. J. Latimer, E. B. Deeter, S. O. Perkins, W. Edward Hearn, and Cornelius Van Duyn. Pp. 41, fig. 1, map. 1. (From F. O. Soils, 1921.) Price, 10 cents.

Cold-Storage Holdings. To October, 1924. Prepared by the Bureau of Agricultural Economics. Pp. 32. January, 1925. (Statistical Bulletin 4.) Price, 5 cents.

Relative Resistance of Wheat to Bunt in the Pacific Coast States. By W. H. Tisdale, pathologist in charge of cereal-smut investigations, and John H. Martin, agronomist in western wheat investigations, Office of Cereal Investigations, Bureau of Plant Industry; Fred N. Briggs, assistant pathologist, Office of Cereal Investigations, and W. W. Mackie, cerealists, California Agricultural Experiment Station, and collaborator, Office of Cereal Investigations (California); H. M. Woolman, field assistant in plant pathology, Office of Cereal Investigations, and agent, Office of Cereal Investigations, and D. E. Stephens, agronomist and superintendent, Sherman County Branch Station, Moro, Oreg., Office of Cereal Investigations (Oregon); and E. F. Gaines, cerealist, Washington Agricultural Experiment Station, and agent, Office of Cereal Investigations, and F. J. Stevens, agent, Office of Cereal Investigations (Washington).

ton). Pp. 30. January 12, 1925. (Department Bulletin 1299.) Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library free copies of the following publications of the State experiment stations during the week of January 12-17, 1925. Copies of these publications may be obtained from the stations issuing them.

Report on commercial insecticides and fungicides.—I. Text of the insecticide law of Connecticut and regulations for its enforcement. W. L. Slate, Jr., and T. Hott. II. Examination of insecticides and fungicides, etc., E. M. Bailey. (Connecticut State Sta. Bul. 258, pp. 361-377. June, 1924.)

Corn in Connecticut. D. F. Jones, W. L. Slate, Jr., and B. A. Brown. (Connecticut State Sta. Bul. 259, pp. 381-470. figs 67. July, 1924.)

Rust infection of leaves in Petri dishes. G. P. Clinton and F. A. McCormick. (Connecticut State Sta. Bul. 260, pp. 473-501. fig. 2. Nov., 1924.)

Growth of potato plants in sand cultures treated with "six types" of nutrient solutions. E. S. Johnston. (Maryland Sta. Bul. 270, pp. 53-86, figs. 8. Sept., 1924.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, Jr. (Massachusetts Sta. Met. Bul. 432, pp. 4. Dec., 1924.)

Bimonthly bulletin. (Western Washington Sta. Bimo. Bul. vol 12, No. 5, pp. 97-124, figs 7. Jan., 1925.)

ISSUE TIMELY NEWS LETTERS

By means of a four-page printed "News Letter," the National Association of Bureau of Animal Industry Veterinarians keeps its members informed of important developments in veterinary medicine, happenings in the Federal service, and personal items of general interest. As its name indicates, the association is composed of veterinary workers in the Bureau of Animal Industry, most of whom are engaged in Federal meat inspection and the control of a wide variety of animal diseases. The nature of this work involves a far-flung organization and much traveling, making it difficult for the men to meet often to discuss matters of common interest.

The "News Letter" acts as a medium of communication and, at a small cost paid from membership dues, keeps members of the organization informed of important developments of veterinary interest. Though published at infrequent intervals, averaging about once in three months, it has contributed materially in maintaining high professional standards and enthusiasm, especially among workers stationed at isolated points.

The National Association of Bureau of Animal Industry Veterinarians has about 1,200 active members. Its officers are B. P. Wende, president, livestock exchange, Buffalo, N. Y.; J. E. Gibson, vice president at large, State House, Indianapolis, Ind.; A. E. Wight, vice president, eastern zone, 1126 Fifth Street NW,

Washington, D. C.; Ralph Graham, vice president, central zone, Federal Building, Jefferson City, Mo.; F. E. Murray, vice president, western zone, Federal Building, Salt Lake City, Utah; J. B. Johnson, vice president, southern zone, Customhouse, Louisville, Ky.; J. S. Grove, secretary-treasurer, 1618 West Twenty-ninth Street, Oklahoma City, Okla.

DENVER CLUB ROUNDS OUT YEAR

The Denver Club has just closed a prosperous and enjoyable year, writes W. W. Putnam, secretary of the club. The meetings have been held on the second Monday of each month. There has been a good attendance, and each time, with the exception of one or two months during the summer, the club has been favored with excellent talks, either by its members or some one from some other department who had a message of special importance along the line of agricultural activities.

Notably among the recent speakers, Doctor Fisher, in charge of the Biological Survey, from Washington, gave the club a very interesting talk on the national and international activities of that division on September 8; also on October 13 John R. Daly, of the Census Department, gave us an interesting talk on taking the 1925 census.

On November 10 Joseph Passineau, of the Colorado Marketing Service, was a guest of the club and gave us an interesting talk on cooperative marketing. On December 8 George C. Kreutzer, director of farm economics of the United States Reclamation Service, gave an interesting discussion of the reclamation program as now outlined for that service.

The officers of the club during the past year were as follows: Dr. W. E. Howe, in charge of Bureau of Animal Industry, president; J. W. Johnson, Bureau of Public Roads, vice president; W. W. Putnam, division of crop and livestock estimates, secretary. On December 8 election of officers for the ensuing year was held, new officers beginning their duties with the meeting of January 12: Col. A. S. Peck, United States district forester, president; S. E. Piper, Biological Survey, vice president; John D. Snow, fruit and vegetable market news service, secretary.

The regular monthly meeting and luncheon of the Denver Club was held January 12, in the dining hall of the chamber of commerce. R. T. Teele, from the Washington office of the division of land economics, Bureau of Agricultural Economics, was the speaker. The new officers of the club, A. S. Peck, chairman; S. E. Piper, vice chairman; J. D. Snow, secretary, took office at this meeting.

PRINCIPAL LIBRARY ACCESSIONS

DOMESTIC ANIMALS AND VETERINARY MEDICINE

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- Richter, Johannes. *Ursachen und Behandlung der Unfruchtbarkeit des rindes*. Berlin, R. Schoetz, 1922.
- South Africa. Departmental commission on transit of livestock. Report. Cape Town, 1924.
- Stegmann, F. P. Die rassengeschichte der wirtschafstiere. Jena, G. Fischer, 1924.
- Waworuntu, F. K. *Bijdrage tot de kennis van het konijnen-coccidium*. Utrecht, "Laurens Coster" 1924. Proefschrift.
- Widkamp, Jan. *Bijdrage tot de kennis van de Hyphomycosis destruens*. Rotterdam, W. C. Goudswaard, 1924. Proefschrift—Utrecht.

HORTICULTURE

- Fletcher, F. J. *Cut flowers for market*. London, E. Benn, 1924.
- India. Department of agriculture. Notes on upper India hedges, their utility and ornamental development, by A. E. P. Griessen, Allahabad, 1924.
- McLaren, John. *Gardening in California; landscape and flower*. San Francisco, A. M. Robertson, 1924.

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- Synnestvedt, Paul. *Fighting insect plagues; a treatise on the evils arising from improper treatment of soils*. Philadelphia, international printing company, 1924.

COMPARATIVE ANATOMY AND PHYSIOLOGY

- Czaplicki, F. M. *Untersuchungen über biologische säuerung von rinderharn*. Weida i. Thür., Thomas & Hubert, 1918. Inaug.-diss.—Leipzig.
- Hoehl, Harry. *Über den einfluss der beifütterung von trockenhefe und kokoskuchen auf die milchsekretion der kühe*. Weida i. Thür., Thomas & Hubert, 1916. Inaug.-diss.—Leipzig.
- Schepang, Walter. *Über den mineralstoffgehalt der milch und der hauptsächlichen nahrungsgewonnenen molkerieerzeugnisse*. Weida i. Thür., Thomas & Hubert, 1917. Inaug.-diss.—Leipzig.
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- Mexico. *Secretaría de agricultura y fomento. Dirección de estudios biológicos. Importancia de algunos cervidos en la alimentación*. Mexico, 1922.

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- Heuser, Otto. *Der deutsche hanf*. Leipzig, S. Hirzel, 1924.
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- Teixeira de Fonseca, Eurico. *Indicador de madeiras e plantas uteis do Brasil*. Rio de Janeiro, Villas-Boas & c., 1922.

TEXTILES

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FOOD

- Carqué, Otto. *Rational diet*. Los Angeles, Times-Mirror press, 1923.

CAMPING AND HUNTING

- Alexander, Tony. *Experiences of a trapper and hunter, from youth to old age*. Portland, Oreg., 1924.
- Playground and recreation association of America. *Camping out; a manual on organized camping*. New York, Macmillan, 1924.

LAW

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- Lehman, B. E. *Statutory limitations on property taxation in Minnesota*. Minneapolis, 1924. (League of Minnesota municipalities. Publication No. 5.)
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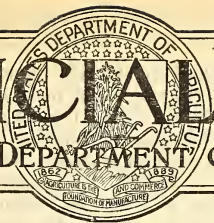
FEDERAL MEAT INSPECTION INCREASES

Official slaughter figures under the Federal meat inspection covering the calendar year 1924 have just been issued by the Bureau of Animal Industry. Compared with the preceding year, 1923, the figures show substantial increases in all classes of animals except swine. The increases for cattle, calves, and sheep approximate half a million in each case, while there is a similar decrease in the case of hogs. Thus there is a net increase of close upon 1,000,000 for all animals.

It will be recalled that the swine slaughter for 1923 was several millions higher than for any previous year, so that the 1924 total, although slightly less, is still close to the record. The monthly figures for 1924, however, disclose a new high record for swine slaughter in December last. The federally inspected hog kill for that month totaled 6,600,306, which is approximately 700,000 greater than for any previous month on record.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. IV

WASHINGTON, D. C., FEBRUARY 4, 1925

No. 5

CONFERENCE SUBMITS LEGISLATIVE REPORT

Recommends Creation of a Federal Cooperative Marketing Board— Other Action Taken

Creation of a Federal Cooperative Marketing Board is recommended by the agricultural conference in a report to the President. The conference also urges that the need of protecting our agricultural commodities should be recognized. While not definitely recommending specific tariff duties, it urges that tariff protection should be given to the dairy and livestock industries through a tariff on such oil-bearing commodities as copra and a number of vegetable oils which are coming into competition with home-produced oil-bearing products of animal origin. Protection is also asked for certain branches of the dried fruit industry. Readjustment of railroad rates on farm products is asked, and also legislation calling for "truth in fabric" statements on cloths and garments indicating the percentages of virgin wool, shoddy, cotton, and silk which they contain.

In regard to cooperative marketing, the conference says that pending bills, though desirable in many particulars, do not present a completely satisfactory program. It suggests that legislation should be passed specifically authorizing cooperative associations to form commodity pools and to carry out programs for orderly marketing.

Would Register Cooperatives

It is recommended that groups of producers wishing to organize cooperative associations should have the benefit, wherever possible, of a Government survey of their distributing problem. Cooperative associations that are financially sound and properly conducted, says the conference, should be entitled to Federal registration when they submit their books to semiannual Federal inspection and agree to abide by approved grades

and standards, and approved trading practices.

It is pointed out that in many lines the grades and standards necessary to efficient marketing do not exist. In such cases, it is declared, producers have the right to recommend the establishment of proper grades. It is suggested that a demand for standards backed by producers representing 60 per cent of the product of any industry, should lead to action.

On the question of the relationship which exists between cooperative associations and the Government, the conference says it is desirable to allow cooperative associations freedom to develop without Governmental interference of domination, other than that made necessary by the "very proper police powers" exercised by the Secretary of Agriculture under the Capper-Volstead Act. It is added, however, that "a fostering attitude" by a Federal Government agency is desirable to give leadership and assistance to cooperation. Creation of a commission to carry out these functions is recommended.

Unsound Legislation Condemned

Legislation that might tend to stimulate the production of any particular commodity for export is frowned upon. Such legislation, says the report, would result in throwing agriculture out of balance, and in subjecting American farmers to increased foreign competition. A balanced agriculture in which production keeps step with the demand of foreign markets, and supplies only such foreign markets as can be profitably served, is pronounced desirable. This aim, the conference says, ought to be obtainable without involving any disproportionate charge on the American consumer, and without dislocating the present adjustment between wage scales in the country and the cost of living.

Amendments to the agricultural credits act are recommended so as to enable agricultural credit corporations to rediscount paper with the Federal intermediate banks. This change, says the con-

(Continued on page 3)

BILL WOULD ABOLISH COTTON FORECASTS

Measure Would Prohibit Department from Issuing Cotton Estimates

Under the terms of a bill (H. R. 11930), which has been introduced in Congress by Representative Oldfield, of Arkansas, the Secretary of Agriculture would be prohibited from announcing or publishing any estimate obtained from any source as to the number of pounds or number of bales of cotton likely to be produced in the United States or any foreign countries. He would be authorized to publish only acreage figures and figures of actual production in previous years.

The bill also directs the Bureau of the Census to report only the actual weight of cotton ginned and the actual amount of cotton baled. Like the Secretary of Agriculture, the Director of the Census is prohibited from publishing forecasts of cotton production. In his reports of cotton ginned and baled, he is directed to make allowance for cotton damaged or destroyed by weather or fire, and to make other adjustments to eliminate duplication in production figures.

Grazing Legislation Proposed

Senator Phipps, of Colorado, is the author of a bill (S. 4976), to regulate grazing conditions on public lands. It authorizes the establishment of grazing districts on nonirrigable lands, and the issuance of grazing permits running for periods not exceeding 10 years. Grazing fees would be based on administration costs plus a 25 per cent margin. Where practicable, preference in the award of grazing privileges would be given to homesteaders and to owners of improved ranches on the public range. Free grazing is permitted under certain conditions.

Land within grazing districts that are nonirrigable or that are suitable for the production of crops are made eligi-

ble for homestead entry, but such lands would remain parts of the grazing districts in which they are situated until patents were issued for them. For the settlement of disputes regarding grazing rights, a Board of Grazing Appeals would be established in the Department of the Interior.

Representative Hawley, of Oregon, has introduced a bill (H. R. 11886) amending an act whereby the Federal Government is authorized to cooperate with State governments for the protection of the watersheds of navigable streams. This bill gives discretionary authority to the Secretary of Agriculture to accept title to lands within national forests and to exchange therefor other lands of equal value, or to permit the grantors of forest lands to the Nation to cut timber on other national forest lands by way of compensation.

Would Amend Highway Act

A bill (H. R. 11927), amending the Federal Highway Act, has been introduced by Representative Evans, of Montana, which authorizes the Secretary of Agriculture, under certain conditions, to increase the share of the United States payable on highway projects in the system of Federal-aid highways. States containing unappropriated lands in which the population does not exceed 10 persons per square mile would have the benefit of this provision.

A provision of the highway act setting a limit of \$20,000 per mile on the sums which the Secretary of Agriculture may contribute to highway projects would be amended so as to limit the Federal contribution to 50 per cent of the cost of the labor and materials actually put into the work.

Representative Lineberger, of California, has introduced a bill (H. R. 11891), authorizing the establishment of a forest experiment station in California.

The Senate has agreed to a House amendment to a bill (S. 2148), empowering certain employees of the Department of Agriculture to administer and take oaths and affidavits. The amendment provides that employees who have subscribed to the oath of office shall not be required to renew that oath because of any change of their status so long as their services are continuous.

A bill (H. R. 8308) authorizing the transfer of seismological work from the Weather Bureau to the Coast and Geodetic Survey has been passed by the Senate and the House, and has been sent to the President for his approval.

Cotton Report Sought

Senator Sheppard, of Texas, has introduced a resolution (S. Res. 317), call-

ing on the Federal Trade Commission to make a report regarding the development and activities of the (British) Empire Cotton Growing Corporation, and the probable effect on American cotton growing of the British Government's recent ultimatum to Egypt concerning an increase of the area to be irrigated at Gezira.

Senator Swanson, of Virginia, has introduced a bill (S. 4109), providing for the acquisition of national parks to be known as Shenandoah National Park and Smoky Mountain National Park.

The Senate has approved a conference report on the Smith-Hoch resolution (S. J. Res. 107), declaring agriculture to be a basic industry and directing the Interstate Commerce Commission to make an inquiry into freight rates on farm products with a view to their adjustment.

Journal of Research Moves to Office of Publications

The editorial office of the Journal of Agricultural Research, the technical periodical published by the department to keep the record of progress of science affecting agriculture, has been moved from the Bureau of Plant Industry to the Office of Publications. The final editorial work on manuscripts for the Journal, and that on all other technical manuscripts as well, will hereafter be done in the Office of Publications, under the supervision of Dr. M. C. Merrill, assistant director.

The editing of the Journal will be done in cooperation with the joint committee on policy and manuscripts for that publication. This committee is composed of six members—three appointed by the Secretary of Agriculture, and three by the Association of Land-Grant Colleges in conformity with the cooperative nature of the enterprise.

The three members of this joint committee who represent the Department of Agriculture and will pass upon Journal manuscripts originating within the department are: Dr. E. W. Allen, chief of the Office of Experiment Stations, appointed chairman upon the resignation of Dr. Karl F. Kellerman, who as chairman has been in charge of the Journal since it was started in 1913; Dr. C. L. Marlatt, chairman of the Federal Horticultural Board and associate chief of the Bureau of Entomology; and Dr. C. L. Shear, senior pathologist in charge of Plant Disease Survey and Pathological Collections.

The three members representing the Association of Land-Grant Colleges, to pass upon the manuscripts originating at the State Experiment Stations, are: Dr.

J. G. Lipman, dean of the New Jersey College of Agriculture and director of the experiment station; Dr. G. R. Lyman, dean of the College of Agriculture of West Virginia University; and Dean H. W. Mumford of the Illinois College of Agriculture and director of the experiment station.

On important questions of policy with respect to all technical manuscripts of the department the following committee will advise the Secretary: Dr. E. D. Ball, director of scientific work; L. J. Haynes, director of publications; and Doctor Merrill, assistant director of publications; together with the three Department members of the Journal joint committee.

The principle of committee advice will also apply to the extension and regulatory publications, the Secretary having appointed two other committees to consider matters of policy in respect to the nontechnical manuscripts and publications.

The policy committee for all extension manuscripts and publications consists of C. W. Warburton, director of extension work; L. J. Haynes, director of publications; and Dr. C. B. Smith and R. Brigham, of the Office of Extension Work.

The policy committee for all regulatory manuscripts and publications consists of W. G. Campbell, director of regulatory work; L. J. Haynes, director of publications; W. C. Henderson, of the Bureau of Biological Survey; and P. D. Cronin, of the Office of the Solicitor.

As problems arise in publication matters they may be referred by the Office of Publications to the particular committees for solution or recommendation.

EXTENSION CONFERENCES POSTPONED

Southern extension conferences which had been planned for cooperative extension workers of Maryland, Virginia, Tennessee, North Carolina and Kentucky at Roanoke, Virginia, February 16-18, and for those of Georgia, Florida, Alabama, Mississippi and South Carolina at Athens, Georgia, February 19-21, have been indefinitely postponed.

Dr. M. Ruskowski, of Poland, a fellow of the International Board of the Rockefeller Foundation, has been studying, in the Bureau of Chemistry and its Baltimore field station, the methods used in the United States for the analysis of foods and for the regulation of commerce in foods. On his return to Poland Doctor Ruskowski will assume his duties as chief of the Bureau of Chemistry of the Republic of Poland, in which position he will exercise control over foods similar to that of the Bureau of Chemistry in the enforcement of the Federal food and drugs act.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

QUARANTINE PORTO RICAN PLANTS?

A public hearing to consider the bringing of Porto Rican fruits and vegetables under permit and any restrictions necessary to prevent the entry into the United States of certain pests known to occur in Porto Rico has been announced by the Federal Horticultural Board of the department at Washington, D. C., March 20, at 10 a. m. Among such injurious insects are the West Indian fruit fly and the bean pod borer. The board believes that there is just as much reason for regulating the importation of products from Porto Rico as from Santo Domingo, Cuba, and other West Indian Islands.

LARGER CORN ACREAGE IN ARGENTINA

The first estimate of the Argentine corn acreage is 9,143,000 acres compared with 8,464,000 acres for 1923-24 according to information received by the department from the Argentine Embassy in Washington. This is an increase of 679,000 acres or about 8 per cent and is the largest area reported since 1915-16.

REPORT FEWER CATTLE ON FEED

Only about 82 per cent as many cattle were on feed in the 11 Corn-Belt States, January 1, 1925, as on the same date last year, according to the final winter feeding estimates of the department. The number on feed in the States east of the Mississippi River was 87 per cent of last year and in the States west of the river there was 81 per cent.

FOREIGN DEMAND FOR TREE SEEDS

Four letters in one day from foreign countries requesting samples of American tree seeds recently were forwarded to members of the Southern Forest Experiment Station, upon whom the demands were made, the interest that foresters across the seas take in our best known forest species. These particular requests, which are typical of many similar letters received at this and other offices of the Forest Service, were from Dublin, Ireland; Sydney, Australia; Fukuoka, Japan; and Tiflis, Russia.

SELL CODE FOR RADIO INFORMATION

In some European countries an effective method has been devised for selling information sent out by radio. Attending meetings or en route to or from

cording to a report from W. A. Schoenfeld, of the Bureau of Agricultural Economics of the department, stationed at Berlin, Germany, prices and other agricultural information are sent out in code. Those who subscribe for the service are provided with an explanation of the code by which they are enabled to interpret the messages. When the time comes for renewal of subscriptions the code is changed.

ESTIMATE 1924 CANADIAN WHEAT CROP

The final estimate of the Canadian wheat crop is 262,000,000 bushels or 212,000,000 bushels less than the final estimate for 1923, according to a telegram received by the department from the Dominion Bureau of Statistics.

WINTER WHEAT AREAS SHOW INCREASE

Official reports of the winter wheat area in France just received by the department bring the total for 10 countries in the Northern Hemisphere up to 77,799,000 acres as compared with 75,500,000 acres in 1924. These 10 countries, which include the United States and Canada, represent more than 40 per cent of the total wheat acreage of the Northern Hemisphere outside of Russia and China.

WORLD CORN CROP IS SHORT

Despite an 8 per cent increase in the Argentine corn acreage for the current crop year as compared with the preceding year, production under the most favorable growing conditions will not be large enough to make up the deficit in the world supply brought about by the short crop in the United States, declares the department in an analysis of the situation.

ALASKAN GAME COMMISSION CREATED

The Alaska Game Act which had passed the Senate during the last session of Congress, passed the House January 6 and was approved by the President on January 15, thus becoming a law. The act in effect creates an Alaska Game Commission of five members, four to be appointed by the Secretary of Agriculture—one from each of the four judicial divisions of the Territory. The fifth member will be the chief representative of the Biological Survey in Alaska and will be the executive officer of the commission. The four members of the commission to be appointed by the Secretary will not receive regular salaries but a per diem to cover services while attending meetings or en route to or from such meetings and an allowance covering their expenses with maximum expenditure limitations. The commission will

have authority to employ and remove game wardens, and its headquarters will be at Juneau. Under the bill provisions are made for giving proper protection to both game and fur bearers and for such regulations as are necessary for carrying out these provisions. The act gives practically absolute protection for all valuable wild life but provides that by regulations proper utilization may be made of the fur, game, and birds.

CONFERENCE SUBMITS

LEGISLATIVE REPORT

(Continued from page 1)

ference report, involves a simple but nevertheless important improvement in the present structure of livestock finance. Under the existing law, member banks in the Federal reserve system are authorized to subscribe to the capital stock of national agricultural credit corporations. This provision, says the report, should make it possible to organize in the livestock territory an adequate number of properly capitalized loan companies, provided such concerns are given the right to rediscount paper at the intermediate credit banks.

Approves Rate Resolution

In regard to freight rate legislation, the conference recommended the passage of House Joint Resolution No. 94, directing the Interstate Commerce Commission to take action relative to the adjustment of freight rates on farm products. This resolution has since been adopted by the Senate.

Unappropriated public domain, says the conference, should be placed under lease, and a uniform policy should be agreed upon for the administration of grazing on public lands and in national forests. It suggests the appointment of a committee to investigate the grazing problem.

It is noted that there has been no increase since 1909 in Federal appropriations for aid to State experiment stations. This means, the report says, that the available funds, owing to the decline that has taken place in the purchasing power of money since 1909, will support much less research work now than they did when first appropriated. Additional appropriations are recommended so as to enable more research to be done concerning the business and social aspects of agriculture. Specifically the conference recommends passage of House Resolution No. 157, authorizing Congress to provide increased Federal aid for research in agriculture economics, rural sociology, and home economics at State agricultural experiment stations.

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Dr. M. C. Merrill Joins Office of Publications

Under a recent memorandum of the Secretary transferring him from the directorship of Forest Service publications to the general publications office of the Department of Agriculture, Dr. Melvin C. Merrill has taken up his duties as assistant director of the Office of Publications.

Doctor Merrill will have editorial charge especially of the more technical scientific publications of the department. He comes to the Office of Publications with a broad background of scientific training and experience and an understanding of publication matters the combination of which it is expected will be of great value to the department as a whole in the editing and publishing work of the department.

Doctor Merrill is a native of Utah. He received his bachelor of science degree from the Utah Agricultural College; master of science degree from the University of Chicago; master of arts degree from Harvard; and degree of doctor of philosophy from Washington University, St. Louis.

He is the author of various papers published in scientific journals, and has written numerous articles of scientific nature for publications of general distribution. He conducted plant-life investigations at the Missouri Botanical Garden and at the Utah Agricultural Experiment Station. For more than three years he was employed in agricultural work for the Government in the Philippines, part of the time as agricultural inspector and part as superintendent of the Baguio Experiment Station. For two years he was director of the department of agriculture of the Idaho Technical Institute; and for five years was head of the department of horticulture at the Utah Agricultural College. And for two years, leading up to his appointment as director of publications in

the Forest Service, he was dean of the college of applied science of Brigham Young University.

DR. GEORGE DITEWIG

Dr. George Ditewig's many friends throughout the country will be grieved to learn of his sudden death at Garfield Hospital, Washington, D. C., January 28. Although he had been under treatment for heart trouble for some time, his death came as a surprise, as on the previous day he had attended as usual to his office duties in the Meat Inspection Division of the Bureau of Animal Industry.

Doctor Ditewig was born at Peoria, Ill., February 11, 1863. Prior to entering college, he engaged in farming and stock raising in Illinois. In the spring of 1891 he was graduated from the Chicago Veterinary College with the degree of D. V. S. He was credited with the highest average for collective studies in his class and was awarded the prize in materia medica. Following his graduation he entered practice at Canton, Ill., and during the five years that he was in practice he held a commission as assistant State veterinarian.

On February 10, 1897, he was appointed assistant inspector in the Bureau of Animal Industry, United States Department of Agriculture, through civil service examination, and was stationed at National Stock Yards, Ill. His qualifications immediately attracted attention, and on November 5, 1897, he was transferred to the Davenport, Iowa, meat-inspection station as inspector in charge. On November 21, 1903, he was assigned to a larger station at Cincinnati, Ohio, and on August 1, 1906, to the St. Joseph, Mo., station as inspector in charge. He proved so successful in handling the various duties assigned to him that on May 1, 1907, he was requested to assume the duties of traveling inspector.

In 1906 a new meat-inspection law was passed which had for its object the improvement of the Federal meat inspection. Dr. Ditewig's duties as traveling inspector were very important in helping to carry this law into effect and in developing the meat-inspection service to its present status of efficiency. With the growth and development of this service it was necessary to enlarge and modify the organization at headquarters, and Dr. Ditewig was called to Washington November 1, 1911, to assume the duties of Assistant Chief of the Meat Inspection Division, which position he held at the time of his death.

Soon after entering the public service Dr. Ditewig declared his intention of

making the work of the Bureau of Animal Industry his life work, and he did. He was a man of more than ordinary intelligence, of fine principle, worthy aspirations, and was endowed with a will to carry his determinations into effect. He was esteemed and respected among his acquaintances as a genial companion and was loved most by those who knew him best. The meat-inspection service of the country has lost one of its most able advocates and supporters, the bureau has lost one of its most accomplished and efficient employees, and his fellow workers have lost a loyal and respected friend. Dr. Ditewig left no family.

GAIL H. ARNER

Gail H. Arner, assistant chief of the New York Food and Drug Inspection Station of the Bureau of Chemistry, died in New York city on January 14 of typhoid fever.

Mr. Arner received his training in chemistry from the Kalamazoo University, from which he graduated in 1917 with the degree of A. B. He took post-graduate work at the University of Michigan. During the war he served in a hospital laboratory and in the Chemical Warfare Service. After his discharge from the Army in 1919 he entered the Bureau of Chemistry, where his efficiency, energy and ability to accomplish results brought rapid increase in his responsibilities. His death at the age of 33 removes one of the most promising of the younger chemists.

WILL SEND EXHIBIT TO GERMANY

Photographs and charts relating to the production, grading, and marketing of American tobacco, also to the inspection and grading of export grain, and transparencies showing whole carcasses and wholesale cuts of pork make up demonstrational material now being sent to the Berlin office of the Bureau of Agricultural Economics of the department. These will be displayed at the forthcoming Leipzig, Germany, fair, for the purpose of directing attention to United States Government inspection and grading of export shipments. The materials are to be shipped to W. A. Schoenfeld, who will make the necessary arrangements for showing at Leipzig. The panels were prepared under the direction of B. L. Perkins, of the Division of Information, in cooperation with the Warehouse and Grain Divisions, and the colored transparencies were planned by the Division of Livestock, Meats and Wool.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is there a county agricultural extension agent in every county in the United States? If not, is that the aim of the department?

Answer. The United States Department of Agriculture in cooperation with the land-grant colleges looks forward to the time when there may be an agricultural extension agent in every rural county of the United States having sufficient farmers in it to justify the expense involved. There are now about 2,100 counties with agricultural extension agents in them. Approximately 700 rural counties do not have county agents in which a county agent could be placed with profit to rural life.

Question. Does the United States Department of Agriculture print any books on concrete or stucco for finishing houses for homes? What is the cost and how may they be obtained?

Answer. Information on stucco is contained in Information Series No. 51 of the Division of Agricultural Engineering of the Bureau of Public Roads. The information is in mimeographed form and may be obtained from the Bureau of Public Roads upon request. Farmers' Bulletin No. 1279, "Plain Concrete for Farm Use," contains information on the general use of plain concrete but does not deal particularly with its use for finishing homes. The bulletin may be obtained from the department upon request.

Question. How many colors can be seen in the rainbow?

Answer. Theoretically, the rainbow contains all of the seven so-called primary colors into which the spectrum was somewhat arbitrarily divided by Sir Isaac Newton. Actually, however, few people can distinguish more than four, or at most, five colors in the rainbow. This is due in the first place to the fact that there is always a considerable amount of over-lapping of the primary colors, as the light does not come from a single point, but from the various parts of the sun's disk, which has an angular diameter of about half a degree. In the second place, few people nowadays think of indigo as a color distinct from blue, and orange is also likely to be ignored as a separate color. The number of colors visible and the

relative amounts of space they occupy in the bow vary considerably with the size of the raindrops in which the bow is produced. Rainbows caused by the moon generally show little or no color, on account of the faintness of the light. Bright lunar rainbows are, however, quite distinctly colored.

Question. Is rabies carried by coyotes as well as dogs?

Answer. Yes, very frequently. In Washington, Oregon, northern California, Nevada, Utah, and Idaho, rabies was of widespread local occurrence for several years among coyotes and bobcats, resulting in heavy losses of livestock and the biting of many people. The measures employed by the Biological Survey, consisting of prompt poisoning campaigns against possible wild animal carriers, have brought it so fully under control that only occasional outbreaks were reported in 1923. Whenever an outbreak was reported, experienced hunters were detailed to the locality, and prompt and effective cooperation between Federal and State officials was also obtained. Outbreaks in Nevada, Utah, Oregon, and Colorado were successfully handled last year as well as two in the State of Washington.

TALK BY SIR DANIEL HALL

"Scientists of large attainments are moved by impulses, deep and little understood, which probably are much the same as the urge which drives an artist to do great work," said Sir Daniel Hall, Scientific Advisor to the Minister of Agriculture of Great Britain, in an address given January 23 to several hundred department people at the National Museum at Washington. Sir Daniel, who has long been a leader in scientific agricultural development in England, outlined briefly the influences that have resulted in increasing the returns from the soil beginning with the contributions of the Romans. Much of his talk, however, was devoted to an appreciation of the scientist and his needs for successful work. "The research man to do his best," he said, "needs a sheltered place which will enable him to carry on his researches without worry and little interference."

Sir Daniel proved himself not only a scientist in the very best sense, but a pleasant and mellow philosopher, and a rare and excellent human being. While in Washington he was taken to Mt. Vernon by Director C. W. Warburton and placed a wreath on the tomb of

Washington, one of the first men to recognize the need for scientific agriculture in this country.

The evening of January 27 a dinner was given in his honor at the Hotel Hamilton, by the research workers of the department. Secretary Gore made a short welcoming address and was followed by Mr. Eric Buxton, commercial secretary of the British Embassy. Sir Daniel followed with a long and delightful talk. Dr. Howard acted as toastmaster. Among the 120 persons present were Secretary of Agriculture Howard M. Gore; Dr. E. D. Ball, director of scientific work; Mr. Eric Buxton, commercial secretary, British Embassy; Mr. Leander McCormick-Goodheart, attaché, British Embassy; Mr. Rudolf Kunz, Czechoslovakian Legation; Dr. A. W. Gilbert, commissioner of the Massachusetts Department of Agriculture; Prof. C. F. Marvin, chief of the Weather Bureau; Dr. L. O. Howard, chief, Bureau of Entomology; O. E. Bradfute, president, American Farm Bureau Federation; C. F. Barrett, chairman, National Board of Farm Organizations; L. J. Briggs, Bureau of Standards, U. S. Department of Commerce; J. C. Merriam, Carnegie Institute; Dr. W. A. Taylor, chief, Bureau of Plant Industry; Dr. C. B. Smith, Extension Service; Dr. C. W. Larson, chief, Bureau of Dairying; Hon. W. H. Spry, commissioner, General Land Office; Dr. E. J. Nourse, Institute of Economics; Dr. H. J. Patterson, University of Maryland; Dr. Harvey W. Wiley, contributing editor, and formerly chief of Bureau of Chemistry; Dr. W. C. Coffey, dean, College of Agriculture, University of Minnesota; Dr. Maynard Metcalf, National Research Council; Dr. George K. Burgess, Bureau of Standards, U. S. Department of Commerce; Dr. Edward B. Slossen, Science Service; C. W. Warburton, director of Extension; Dr. J. R. Mohler, chief, Bureau of Animal Industry; Dr. H. C. Taylor, chief, Bureau of Agricultural Economics; Dr. C. A. Browne, chief, Bureau of Chemistry; Dr. E. W. Allen, Extension Service.

Civil-Service Announcement

Junior biologist (economic ornithology), \$1,860, March 11, 1925. A vacancy in the Bureau of Biological Survey, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

EVOLUTION OF THE EXTENSION SERVICE

The Extension Service as it exists to-day is the result of the evolution of a movement which had its first beginning a quarter of a century or more ago—a movement calculated to establish a means of carrying to the farmer the results of the research in agriculture at the various State agricultural colleges and the Federal department. From their beginning the agricultural colleges and the department disseminated agricultural information among the farming people by correspondence, distribution of publications, and addresses at meetings by members of their staffs, largely through the medium of farmers' institutes. These independent efforts, however, were inadequate and by 1914, when the Smith-Lever act was being discussed, it was estimated that agricultural knowledge in these institutions was 25 years in advance of the common farm practices.

Some time before this, however, the idea of a demonstration service had been launched. The national cooperative extension service as it exists to-day may be said to have had its real beginning as the result of an emergency, as have numerous other bureaus of the department. This emergency was the result of the damage being done to the cotton crop in Texas by the boll weevil. Through the Bureau of Plant Industry, the department made an effort not only to control the boll weevil, but to offset its attacks by improving the general practice of agriculture in the South. Through this movement was developed a system of extension work by means of county agricultural and home demonstration agents, and supervised demonstrations by farmers on their own farms. The work was begun in 1903 under the leadership of Dr. Seaman A. Knapp. At first this work was independent of the colleges, but gradually they came into more or less definite cooperation with it. By 1914 more than 500 men agents and 200 women agents were employed in the 15 southern States.

The work had progressed more slowly in the Northern and Western States during this time. The first county agent in this section was not appointed until 1911. However, by 1914 there were more than 200 agents employed in these Northern States.

The extension work of the South and the extension work of the North and West up until 1914 had existed as more

or less separate movements, but in that year the work was put on a national cooperative basis by the passage of the Smith-Lever Act. This act provided for a permanent nation-wide system of cooperative extension work in agriculture and home economics that would include the more useful features of the system so far developed by the colleges and the department. In 1915 it was put under the supervision of a newly created bureau called the States Relation Service, and the detailed work entrusted to two officers, one for the 15 Southern States and the other for the 33 Northern and Western States. Five years later, October 1, 1921, these two offices were combined into a single office called Office of Cooperative Extension Work. In 1923 the States Relations Service which included this single office, was abolished, and the present Extension Service created, which embraces the Office of Cooperative Extension Work, the Office of Motion Pictures, and Office of Exhibits, with C. W. Warburton as director of the Extension Service.

At present 2,100 of the 3,044 agricultural counties are supplied with one or more extension workers. These workers include 2,237 county agents, 960 county home demonstration agents, and 118 boys' and girls' club agents, whose work is aided and supplemented by the activities of about 900 extension specialists. The county workers specialists, and the administrative and supervisory forces altogether amount to more than 4,800 persons.

WITH EXTENSION FORCES

LEADERS' CONFERENCES VALUABLE

Local leaders' conferences have a recognized part in the junior extension program for 4-H club work in a number of Washington counties. Meeting at regular intervals to discuss county-wide matters, such as organization methods, general policies, club camps, and achievement days, has helped the local leaders with the work which they had volunteered to conduct, has assisted in maintaining a higher standard of work, and has contributed to the upbuilding of community spirit in the neighborhoods which the leaders represented.

Monthly leaders' meetings have been held in Spokane County, Washington, for some years. The results may be seen in a number of county-wide activities, among them, the attendance in 1924 of over 90 club members and leaders from this county at the State club camp, a county club camp and achievement day which was attended by over 500, a county club section in the Spokane Interstate Fair containing over 150 club

exhibits, and 41 two-member teams demonstrating milk testing, livestock judging, potato grading, canning, bread making, pattern drafting, and other club activities.

In addition to the monthly leaders' conferences, annual meetings of leaders are held by groups according to the subject matter in which they are concerned, to formulate their yearly program of work. Some of these groups meet in conjunction with the groups of the county agent, O. V. Patton, on similar projects; some meet with Inez J. Arquist, the home demonstration agent, and her subject-matter leaders and others meet only with the club agent, W. J. Green. The State specialist concerned in each instance meet with the group engaged on a plan of work involving his subject.

Junior extension work was carried on in 20 communities of Spokane County during 1924 by 71 local leaders. In each of the sections organized on a community basis there was a community leader whose duty it was to organize his community for promoting of club work. This local organization aided in obtaining local project leaders, in enrolling club members, decided on local lines of work, planned for local recreation and community fairs, and helped to promote the county wide activities. Eight community fairs and 12 community recreational programs were planned and carried out.

Goals were set in 11 lines of work for 1924. In 7 of these the goal was exceeded, frequently to a marked extent. The clothing work made perhaps the most noticeable overreach, surpassing its goal of 14 clubs with 140 members by the organization of 22 clubs with 221 members, 191 of which completed the year's work. Forty of the 72 clubs conducted last year reported 100 per cent completions. Four-H club members undertook 670 projects last year and 534 of them were completed. Local club leaders held 326 meetings, 65 demonstrations with a total attendance of 6,514 persons, and gave 1,586 hours to the work.

A 19-year-old girl of this county, Helen Brown, who has been a 4-H club member for six years, has also acted for several years as local club leader in her community and participated in these monthly leaders' meetings. This year she was awarded second place in the national leadership contest at the 1924 International Livestock Exposition, Ford Mercer, an Oklahoma club member, winning first. The spirit of the training she received is shown in her observation that "frequently when a leader leaves a place, the rest of the organization falls flat. I do not want this to happen to our club when we older members go away to college. That is why I have definitely tried to bring the younger club member into positions of responsibility."

BRIEF REVIEWS OF NEW BULLETINS

Report of the Alaska Agricultural Experiment Stations, 1923. By C. C. Georgeson, Agronomist in Charge. Pp. 37, pls. 10. January, 1925. Price, 10 cents.

The report records the memorable visit to the Fairbanks and Sitka stations of the late President Harding and other Government officials, lists the leading projects, and gives an account of the progress of the work of the stations. The season was generally favorable. Highly satisfactory results are reported with grain crops. A number of the hybrids of wheat, barley, and oats developed by the stations gave better yields than introduced sorts. Potatoes were a great success all over the Territory, and progress in the development of improved seedling varieties is reported. Tests of hardy varieties of legumes in a well-ordered rotation, to determine their relative value for feed and for maintaining soil fertility, demonstrated that vetches, peas, and clovers are especially valuable for this purpose. Silage crops tested included artichokes, sunflowers, and soy beans. The first appears to be promising. The season was favorable for various sorts of vegetables, small fruits, and flowers. Results are given of a survey of homesteads in the five leading agricultural districts, namely, the Tanana and Matanuska Valleys, Anchorage, Kachemak Bay, and Kodiak Island, preparatory to inaugurating cooperative experiments with farmers and introducing crops superior to those now grown. Reciprocal crossing of Galloways and Holstein-Friesians to develop a dairy breed especially adapted to Alaska is reported to be well under way. Experiments in cattle-yak crossing were begun and small herds of sheep and hogs were maintained for breeding purposes. Included in the report is a meteorological summary giving an idea of the climatic conditions in various parts of the Territory.

Experiments with Fallow in North-Central Montana. By George W. Morgan, associate agronomist, office of dry-land agriculture investigations, Bureau of Plant Industry. Pp. 16, figs. 6. January 16, 1925. (Department Bulletin 1310.) Price, 5 cents.

The results of seven years of experiments are reported in this publication, which is issued more as a report of progress in the work than to give final conclusions. The 7-year period covered by the experiments was, according to climatic records for 44 years, representative of the most unfavorable conditions expected rather than of the average. During this period there were many crop failures in the northern Great Plains on summer fallowed land as well as on land that was cropped each year. The bulletin reports the results on fallow in comparison with those following corn, small grains, and green manures. The results of plowing at different times and different depths for fallow and of manuring fallow land are also given.

The Marketing and Distribution of American-Grown Bermuda Onions. By W. Mackenzie Stevens, formerly associate marketing specialist, Bureau of Agricultural Economics. Pp. 56, figs. 14. January 13, 1924. (Department Bulletin 1283.) Price, 10 cents.

The results of this study show that the Bermuda-type onion grown in Texas, California, and Louisiana comprises about one-fourth of all onion shipments in the United States, while four-fifths of the Bermudas come from southern Texas. Costs are high, for production and transportation and prices vary widely during the season and between

one season and another. Hence, growers assume considerable risk when specializing on this crop. The bulletin attempts to lessen the element of chance by showing the close relation between the early price and the quantity of old stocks in storage, also the influence of the variety, quality and condition of new stock as well as the effect of steadiness and volume of shipments. Poorly graded onions tend to depress the price and retard the sale of all stock. Possibilities of organized effort in marketing are considered from the standpoint of developing new markets, estimating consumption, regulating supply, protecting quality of shipments and making special effort to secure full market opportunities in seasons when conditions are difficult and the usual means of disposal insufficient to meet growers' needs.

More Profit for the Wheat Farmers of Central Kansas. By Jesse W. Tapp, assistant agricultural economist, Bureau of Agricultural Economics, and W. E. Grimes, head, Department of Agricultural Economics, Kansas Agricultural Experiment Station. Pp. 14, figs. 11. November, 1924. (Farmers' Bulletin 1440.)

This bulletin points out that wheat, taking one year with another, has been and possibly will continue to be the most profitable crop grown in central Kansas. Some farmers, by having fields better shaped and larger in size, by using larger implements and machines, get more wheat for a given amount of man labor, horse work and other resources than do other farmers. Some farmers, by early and deep plowing, increase their chances for good yields. Some farmers get larger yields than others by selecting high yielding varieties. These and other reasons are suggested to show why some farmers get more from the wheat crop than do other farmers.

ADDITIONAL PUBLICATIONS

Demonstration Courses in Wood Utilization. Prepared by the Forest Products Laboratory, Forest Service. Pp. 22, figs. 14. September, 1924. (Miscellaneous Circular 29.) Price, 5 cents.

Monthly Weather Review. Vol. 52, No. 9. September, 1924. Pp. 421-472, figs. 9, charts 12. Price, 15 cents a copy. Special Articles: A Systematically varying period with an average length of 28 months in weather and solar phenomena. By H. W. Clough.—Van Bemmelen on the intratropical part of the general circulation of the atmosphere. By B. M. Varney—Mitchell on West Indian hurricanes and other tropical cyclones of the North Atlantic Ocean. By A. J. Henry—Tornadoes in Wisconsin, September 21, 1924. By W. P. Stewart.—Rainfall and drainage operations. By E. V. Willard.—The climagram. By G. Hellmann.

The Monthly Weather Review is sent free to cooperating meteorological services, universities, and institutions of learning which offer courses of instruction in meteorology, and to a limited number of individuals and students interested in the science of meteorology who make application for the Review, addressed to the Chief of the U. S. Weather Bureau and showing sufficient reasons why they should receive copies free of cost.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 212. December, 1924. Pp. 125-132. January, 1925. Price, 5 cents.

Bureau of Chemistry. No. 181. Notices of Judgment 12501-12550. Pp. 279-307. January, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations

during the week of January 19-24, 1925. Copies of these publications may be obtained from the stations issuing them.

Make the dairy pay. Testing and handling milk and cream. F. E. Ball. (Colorado Sta. [Bul.] 295, pp. 60, figs. 34. Dec., 1924.)

Mason County soils. R. S. Smith, E. E. De Turk, F. C. Bauer, and L. H. Smith. (Illinois Sta. Soil Rpt. 28, pp. 62, pls. 2, figs. 9. June, 1924.)

The sugar cane disease situation in 1923 and 1924. C. W. Edgerton, W. G. Taggart, and E. C. Tims. (Louisiana Sta. Bul. 191, pp. 44, figs. 8. Dec., 1924.)

Studies on a nonvirulent living culture of *Bact. abortus* toward protective vaccination of cattle against bovine infectious abortion (Bang's abortion disease). I. F. Huddleson. (Michigan Sta. Tech. Bul. 65, pp. 36. July, 1924.)

Inspection of commercial feeding stuffs, 1924. H. E. Kravitz, T. O. Smith, and J. T. Sullivan. (New Hampshire Sta. Bul. 213, pp. 63. Aug., 1924.)

Sweet potato studies in New Jersey. L. G. Schermerhorn. (New Jersey Sta. Bul. 398, pp. 19, figs. 11. Aug., 1924.)

Inheritance of Xantha seedlings in malze. H. Trajkovich. (New York Cornell Sta. Mem. 82, pp. 13. Dec., 1924.)

NYUSDA CLUB INSTALLS OFFICERS

The NYUSDA Club held its first meeting of the year on January 14. The meeting was marked by the installation of the newly elected officers, B. F. McCarthy, marketing specialist, Bureau of Agricultural Economics, president; Dr. E. C. Joss, Bureau of Animal Industry, vice president; and J. J. McManus, Bureau of Chemistry, secretary-treasurer. Mr. McCarthy, in his opening address, stressed the opportunities the members had for cooperation to the mutual benefit of themselves and the work of the department, and talked on plans for the coming year. The feature of the meeting was an interesting talk by Dr. P. B. Parsons, bacteriologist of the New York Station of the Bureau of Chemistry, on the oyster situation, which was of considerable current interest because of the publicity given to the typhoid epidemics in New York and other cities. W. C. Hackleman, of the Bureau of Agricultural Economics, spoke on the extension of the work of the Food Products Inspection Service during the past year. Resolutions of sympathy on the death of Gail H. Arner, assistant chief of the New York Station of the Bureau of Chemistry, who died of typhoid fever on January 14, 1925, were adopted.

"Suggestions for conducting a Scrub Bull Eradication Campaign" is the subject of a circular (B. D. M. 50) just issued by the Bureau of Dairying. The circular gives some of the needs for improving the dairy herds and outlines the different steps that must be taken to make a successful campaign. The circular can be obtained free of charge from the Bureau of Dairying, so long as the supply lasts.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Chile. Dirección general de los servicios agrícolas. Los Servicios agrícolas del país: enseñanza y fomento. Santiago de Chile, 1924.
- Michigan. Laws, statutes, etc. Laws relating to the Dept. of agriculture. Lansing, 1923.
- Ortiz, L. L. El cultivo del algodón en los Estados Unidos de América. Madrid, Ministerio de fomento, Dirección general de agricultura y montes, 1923.
- Raveau, Paul. L'agriculture et les classes paysannes dans le Haut-Poitou au XVI. siècle. Paris, Librairie des sciences économiques et sociales, 1924.

DOMESTIC ANIMALS AND VETERINARY MEDICINE

- Dieben, C. P. A. Over de morphologie en biologie van het rattenecidium *Elmiera mitchelli*. [n. p.] 1924. Proefschrift-Versaatsnijlhogeschool, Utrecht.
- Fermi, Claudi. I metodi fermi di vaccinazione e di sierovaccinazione antirabbica. Milan, Istituto sieroterapico, 1924.
- Lesbre, P. X. Précis d'extérieur du cheval et des principaux mammifères domestiques. 2. éd. Paris, Asselin et Houzeau, 1920.

FOOD

- Gilbert, A. W. The food supply of New England, prepared under the auspices of the Executive committee of the New England agricultural conference. New York, Macmillan, 1924.
- Jago, William. The technology of bread-making. Chicago, Bakers' helper company, 1921.
- Lowry, E. B. What does your child weigh? Chicago, Forbes, 1924.
- Reger, T. M. Scientific preservation of food. New York, Wiley, 1925.
- Scott, Jessica. First year course in cooking. Worcester, Worcester continuation school, 1923.
- Winchell, F. E. Food facts for every day. Philadelphia, Lippincott, 1924.

CHEMISTRY AND PHYSICS

- Congresso nazionale di chimica pura ed applicata. 1st. Roma, 1923. Atti. Roma, Associazione italiana di chimica generale ed applicata, 1923.
- Ferry, E. S. General physics and its application to industry and everyday life. New York, Wiley, 1923.
- Perkin, W. H. Organic chemistry. v. 2. London, W. & R. Chambers, 1923.
- Reid, E. E. Introduction to organic research. New York, Van Nostrand, 1924.

ENGINEERING

- Pulver, H. E. Materials of construction. New York, McGraw-Hill, 1922.
- Swain, G. F. Structural engineering. v. 2. New York, McGraw-Hill, 1924.

TECHNOLOGY

- Dupont, G. Distillation du bois. Paris, Gauthier-Villars, 1924.
- Lucas, E. W., and Stevens, H. B. The book of receipts. 12th ed. London, J. & A. Churchill, 1924.

ENTOMOLOGY

- Newsstead, Robert. Guide to the study of tsetse-flies. London, Hodder and Stoughton, 1924. (Liverpool school of tropical medicine, Memoir n. s., no. 1.)
- Societas entomologica hungarica. Folia entomologica hungarica, v. 1, fasc. 1-2. Budapest, 1923-24.

BIOLOGY

- Dürken, Bernard. Allgemeine abstammungslehre. 2. aufl. Berlin, Borntraeger, 1924.
- Wilson, E. B. The cell in development and heredity. 3d ed. New York, Macmillan, 1923.

PATHOLOGY AND BACTERIOLOGY

- Falta, Wilhelm. Endocrine diseases. 3d ed. Philadelphia, Blakiston, 1923.
- Milan. Istituto sieroterapico milanese. Annali. Milan, 1923.
- Milan. Istituto sieroterapico milanese. Endocrinologia. Milan, 1922.
- Mécan, R. P. A. De la désinsectisation de locaux. Nancy, Lorraine, Rigot, 1923.
- Santen, Rutger van. De waarde van het bacteriologisch vleeschonderzoek bij het keuren van slachtdieren. Utrecht, F. Schotanus & Jans, 1924. Proefschrift.

BOTANY

- Hoehne, F. C. Vegetaes antheiminticos. S. Paulo, 1920. São Paulo. (Comissão do serviço sanitário. Trabalhos publicados n. s., n. 11.)
- Rietz, G. E. du. Zur methodologischen grundlage der modernen pflanzensoziologie. Wien, A. Holzhausen, 1921. Akad.-abhandlung—Upsala.
- Seeman, B. C. Die volksnamen der amerikanischen pflanzen. Hanover, C. Rümpler, 1851.

ECONOMICS AND STATISTICS

- Aereboe, Friedrich. Die beurteilung von landgütern und grundstücken. 2. aufl. Berlin, P. Parey, 1924.
- American council of agriculture. Equality for agriculture. Moline, Ill., Moline press, 1925.
- Fisher, Irving. America's interest in world peace. New York, Funk & Wagnalls, 1924.
- Salvador. Dirección general de estadística. La Republica de el Salvador. New York, C. J. O'Brien, 1924.

BIOGRAPHY

- Ivins, L. S., and Winship, A. E. Fifty famous farmers. New York, Macmillan, 1924.

BIBLIOGRAPHY AND LIBRARY ECONOMY

- Drury, Mrs. G. M. The library and its organization. New York, H. W. Wilson, 1924.
- Meisel, Max. A bibliography of American natural history. v. 1. Brooklyn, N. Y., Premier publishing co., 1924.

PERIODICALS CURRENTLY RECEIVED

- Acta pathologica et microbiologica scandinavica. v. 1, fasc. 1. København, 1924.
- Bombay market report and trade journal (weekly) 56th year, no. 49. Dec. 6, 1924. Bombay.
- Irish free state. Ministry of industry and commerce. Trade and shipping statistics (monthly) v. 1, no. 2. Feb. 1924. Dublin.
- Journal of land and public utility economics (quarterly) v. 1, no. 1. Jan. 1925. Chicago.
- The Nation and the atheneum (weekly) v. 36, no. 1. Oct. 1924. London.

Articles in Current Publications by Department Workers

- Baughman, W. F., and G. S. Jamieson (Chemistry). Action of fatty acids and oils on a photographic plate. J. Oil & Fat Industries, vol. 2, no. 1, January, 1925.
- Boyce, J. S. (Plant Industry). Decay in Douglas fir in relation to cruising. West Coast Lumberman, vol. 47, no. 534, pp. 24-26, November 1, 1924.
- Caudell, A. N. (Entomology). Two new species of *Ceuthophilus* from the Carlsbad Cave in New Mexico (Orthoptera). Proc. Ent. Soc. Washington, vol. 26, no. 9, pp. 217-221, December, 1924.
- Cushman, R. A. (Entomology). On the systematic position of the genera *Collyria* Schödtte and *Ischnoceros* Gravenhorst (Hymenoptera). Proc. Ent. Soc. Washington, vol. 26, no. 9, pp. 229-231, December, 1924.
- Dudley, J. E. (Entomology). The pea aphid project. The Canner, vol. 59, no. 20, pp. 25-27, November 8, 1924.
- Dyar, H. G., and R. C. Shannon (Entomology). The American species of *Thaumalidae* (Orphenophillidae) (Diptera). Washington Academy of Sciences Journal, vol. 14, no. 8, pp. 432-434, November 4, 1924.
- The American species of *Uranotaenia*. (Diptera, Culicidae). Insector *Insctiae* Menstruus, vol. 12, nos. 10-12, pp. 187-192, October-December, 1924.
- Some new species of American *Dixa* Meigen. (Diptera, Culicidae). Insector *Insctiae* Menstruus, vol. 12, nos. 10-12, pp. 193-201, October-December, 1924.
- The sub-families, tribes, and genera of North American Culicidae. Washington Academy of Sciences Journal, vol. 14, no. 2, pp. 472-486, illus., December 4, 1924.
- Gahan, A. B. (Entomology). The systematic position of the genus *Harmolita* Motschulsky with additional notes (Hymenoptera). Proc. Ent. Soc. Washington, vol. 26, no. 9, pp. 224-229, December, 1924.
- Harrison, J. L. (Public Roads). The effect of haul on the cost of earthwork. Contractors' and Engineers' Monthly, vol. 10, pp. 65-69, January, 1925.

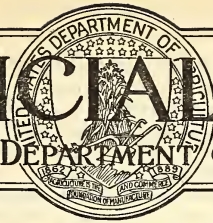
- Hogentogler, A. C. (Public Roads). Motor truck impact tests. Engineering and Contracting (Roads and Streets), vol. 63, pp. 54-58, January 7, 1925.
- Holmes, W. C., and E. F. Snyder (Chemistry). The spectrophotometric determination of hydrogen ion concentrations and of the apparent dissociation constants of indicators. II. Thymol blue. J. Am. Chem. Soc., vol. 47, no. 1, January, 1925.
- The spectrophotometric determination of hydrogen ion concentrations and of the apparent dissociation constants of indicators. III. Brom cresol green. J. Am. Chem. Soc., vol. 47, no. 1, January, 1925.
- MacDonald, Thomas H. (Public Roads) Financing highway construction. Good Roads, vol. 68, pp. 10-11, January, 1925.
- Modern road construction for public parks. Parks and Recreation, vol. 8, pp. 104-108, November-December, 1924.
- Research in material and design cuts costs of highway construction. Interview with Mr. MacDonald by Gorman M. Hendricks. Highway Magazine, vol. 15, pp. 3-5, January, 1925.
- McCord, James B. (Public Roads) Snow removal methods and costs. Successful Methods, vol. 7, pp. 23-24, January, 1925.
- The snow removal problem on highways of the United States. Good Roads, vol. 68, pp. 3-5, 42-44, January, 1925.
- Morrison, Harold (Entomology) Synonymical notes on two species of *Aulacaspis* (Homoptera: Coccidae). Proc. Ent. Soc. Washington, vol. 26, no. 9, pp. 231-232, December, 1924.
- Myers, P. R. (Entomology) The identity of *Nemicrolepis fulvipes* (Forbes), a common Hessian fly parasite (Hymenoptera). Proc. Ent. Soc. Washington, vol. 26, no. 9, pp. 222-224, December, 1924.
- Reed, J. O. (Chemistry) The dust explosion in Krause Mill. Am. Miller, December 1, 1924.
- Skinner, W. W. (Chemistry) The story of bread. Am. Food J., vol. 19, no. 12, December, 1924.
- Snyder, T. E. (Entomology) Whence the termites of Hawaii? Proc. Ent. Soc. Hawaii, vol. 5, no. 3, pp. 381-384, December, 1924.
- Trumbower, Henry R. (Public Roads) Sources of funds for highway purposes. Public Works, vol. 53, pp. 367-371, December, 1924.

At the December meeting of the Chicago U. S. D. A. Club the following officers were elected for the year 1925: President, R. T. Miles, Federal Grain Supervision; Vice President, Dr. J. W. T. Duvel, Grain Futures Administration; Secretary-treasurer, E. P. Lemott, Bureau of Agricultural Economics. At the January meeting Dr. Duvel, vice president, presided, due to the absence of the president. Dr. W. A. Evans, health advisor of the Chicago Daily Tribune, who was the speaker at this meeting, gave a very instructive and enlightening talk on the Chicago Water Situation. There were thirty-eight members present, including thirteen new members who joined the club at this meeting.

Acting upon a suggestion of the Trade Relations Committee of the American Fruit and Vegetable Shippers Association, the Bureau of Agricultural Economics is working on a plan for the promulgation of standard rules and definitions of trade terms as the officially recognized code to govern the fresh fruit and vegetable industry. The bureau will work with the joint council which is composed of representatives of four of the main fruit and vegetable trade organizations.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., February 11, 1925

No. 6

COOPERATIVE BILLS NOW BEFORE CONGRESS

Companion Bills Would Create a Federal Cooperative Mar- keting Board

Senator Capper of Kansas and Representative Williams of Michigan have introduced companion bills in Congress (S. 4153 and H. R. 12157) providing for the creation of a Federal cooperative marketing board along the lines recommended by the President's agricultural conference. These bills are similar in some respects to measures introduced at the last session of Congress. However, unlike the previous bills they do not authorize loans for the financing of new cooperative associations and do not propose changes in the machinery for establishing new commodity grades. The proposed Federal cooperative marketing board would assist in the formation of cooperative associations and in the correlation of their activities. It would place the resources of Government departments at the disposal of cooperative organizations for the purpose of making surveys of marketing problems. Organization of cooperative clearing houses and terminal market associations handling farm products would be permitted. These bodies would function under the supervision of the Federal board.

To Create Farmers' Export Corporation

Legislation similar to the McNary-Haugen bill that was so much discussed at the last session of Congress, has been introduced by Senator McNary of Oregon and Representative Haugen of Iowa. The bills (S. 4206 and H. R. 12127) would create a farmers' export corporation with power to buy farm products under conditions tending to maintain their price level on an equality with that of other goods. Special tariff duties would be imposed to facilitate the work of the corporation.

Representative Garber, of Oklahoma, has introduced a bill to provide for a tariff on hides and cattle. Another bill (H. R. 12105) with the same object has been introduced by Representative Lineberger, of California.

Senator Cameron, of Arizona, has introduced a resolution (S. Res. 325) directing the Federal Trade Commission to investigate charges that the antitrust laws have been violated in transactions affecting wheat, flour, and bread. The commission is asked to inquire into the relation of alleged antitrust-law violations to the demand and the supply of these commodities.

Senator Brookhart, of Iowa, has introduced a resolution (S. Res. 322) authorizing the Senate Committee on Agriculture and Forestry to investigate alleged unfair methods of the Forest Products Laboratory of the Department of Agriculture at Madison, Wis., with respect to certain creosote products.

A bill (S. 2424) to reduce the fees for grazing livestock on the national forests has been passed by the Senate.

The public buildings bill (H. R. 11791), providing \$150,000,000 for structures for the executive departments in Washington and for the Treasury and Post Office Departments outside of the District of Columbia, has been passed by the House.

A bill (H. R. 9362) authorizing an appropriation of \$25,000 for the establishment of a livestock and dairying experiment station at Dalhart, Tex., has been passed by the House.

Senator Copeland, of New York, has introduced a bill (S. 4216) to extend the provisions of the meat-inspection act to poultry.

In a bill (S. 4155) introduced by Senator Johnson, of California, the Secretary of Agriculture is authorized to cooperate with the State of California and with local Government authorities in that State in measures for the protection of forest and brush covered areas in the Santa Barbara, Angeles, San Bernardino, and Cleveland National Forests against fire. Similar cooperative action to secure the regularity of water flow essential to the maintenance of municipalities and agricultural interests is called for in the bill.

PRESIDENT COOLIDGE EMPHASIZES ECONOMY

Asks Government's Business Organ- ization for Further Cuts in Ex- penses—Gen. Lord Talks

"As I am pledged to economy in my requests for further funds, so are you pledged to economy in the expenditure of the funds which may be granted by Congress," said the President in addressing the eighth regular meeting of the Business Organization of the Government, January 26. He spoke of these meetings as probably unique in the history of nations, as most profitable, and as necessary to the conduct of the business of the Government in a business way.

The President spoke in part as follows:

"This fiscal year will mark the close of four years of effort to reduce the cost of Government. How successful these efforts have been can be summarized in very few words. In the fiscal year 1921 we spent \$5,538,000,000. It is estimated that we will spend this fiscal year \$3,534,000,000. This will show a reduction in our expenditures of \$2,004,000,000. The four years will show a reduction in the public debt of approximately \$3,198,000,000. This means a reduction in the annual interest from \$999,000,000 to \$865,000,000, a saving of \$134,000,000 each year. In the same period of time the people have been benefited by a material reduction in taxes of about \$2,000,000,000 yearly. This is certainly an enviable record. It is a record in which the executive branch of the Government shares credit with the legislative branch. * * *

Limit Is \$3,000,000,000

"We have proven that we can reduce the cost of Government and I propose that this cost shall be further reduced. In this effort I look to you for loyal support. When you leave this meeting to-

night carry with you a pledge to bend every effort to carry on your activities with less money. * * *

"It is estimated that our expenditures this fiscal year, excluding postal expenditures, will amount to \$3,534,000,000. Included in this estimate is \$471,800,000 required by law to be applied to the reduction of our national debt. It is my desire that our expenditures this year, excluding this amount for the public debt retirement, be kept within \$3,000,000,000. This will require a curtailment of our expenditure program by \$62,000,000. With your full cooperation I believe that we can effect this further reduction in our expenditure program for this year. I ask your cooperation and effort to this end. Our estimated expenditures for the next fiscal year are well under the three billion mark, but I desire to reach the goal this year. * * *

"At our meeting last June I called your attention to the necessity of reducing the Government pay roll. The matter of personnel should be kept constantly in mind. It is the heaviest single item of our expenditures. In 1913 the average salary of Government employees in the District of Columbia was \$1,134. On July 1, 1924, the average salary was \$1,749. This shows an increase in the average salary of \$615 within this period. I do not think any one can claim that the cost of living has increased \$615 in the same time. This is more than a 54 per cent advance. Should the salaries of all employees in each class reach the average rate authorized for the class, the average salary would be \$1,809 per year. We can not look to a reduction in pay to effect a reduction in the Government pay roll. What we are looking for is a reduction in the number of employees. Let me remind you that the Government pay roll for 1924 reached the staggering total of \$1,680,000,000. * * * We have superfluous employees. It is an unpleasant and difficult task to separate people from the Federal service. But it can be done. It will be done. I advise Federal administrators to plan to operate with a smaller personnel than is now employed. * * *

The Lawful Estimates

"At our last meeting I had occasion to call your attention to the fact that under the law the only lawful estimates are those which the Chief Executive transmits to Congress. My reason for then calling the matter to your attention was that in a few instances officials of the executive branch of the Government advocated before the committees of Congress the appropriation of amounts in excess of those recommended in the Executive estimates. Both the letter and the spirit of the Budget and Ac-

counting Act prohibit such action. There is nothing, however, in the law, nor any intent on the part of the Chief Executive, to preclude the officials who appear before the committees of Congress from giving the committees full and complete information on any item contained in the estimate. There is a marked distinction between advocating an increase in the Executive estimates and furnishing Congress with full and complete information concerning them. The former is prohibited by law, as it should be. The latter is a fulfillment of the right of Congress which has never been questioned nor should ever be questioned.

"Before we meet again you will have your appropriations for the next fiscal year. In formulating your expenditure program under these appropriations keep constantly in mind the necessity for economy. In making your apportionments of these appropriations set up a reasonable amount in a reserve status. This course has helped you in the past. It has enabled you to meet ordinary emergencies without interfering with your regular program. It has helped us to save.

"For the next fiscal year 1926 our financial outlook as presented in the Budget for that year is most encouraging. If the Budget program is sustained by Congress at this session I will be able in the next Budget to recommend a further reduction in taxes. The outlook for 1926 is that we will have a surplus that year of more than \$373,000,000. Any increase in receipts will swell this surplus. And any decrease in expenditures will again add to the surplus. By economy in operation you can help swell this estimated surplus. Each dollar that you add to it should go to the benefit of the taxpayer in the reduction of taxes.

"This intensive drive for economy is increasing the efficiency of Federal business. Let those who are inclined to scoff at it, those who are inclined to refer to it as cheese paring, look at the result it has accomplished. * * * We are evidently entering upon an era of increasing business activity and material prosperity. With increasing business we can surely depend upon increasing revenues. I have heretofore indicated my purpose that growing revenues shall not be absorbed in unwarranted increases in Federal expenditures. As the country grows, an honest, reasonable increase in cost of Government is expected. That increase, however, must not be timed to keep step, dollar for dollar, with the increase in revenue."

General Lord's Statement

After calling attention to the "limitless possibilities" in the business organi-

zation of the Government and after reviewing briefly the results accomplished since the adoption of the budget system, Gen. H. H. Lord, director of the Bureau of the Budget, outlined what is expected of those charged with the expenditure of Government funds.

"Estimates of expenditure for the current fiscal year, as given in the 1926 Budget, exclusive of debt payments," said the director, "show a total of \$3,062,277,407, which is \$62,000,000 too much. Lest we forget, note just here that in reaching that total—\$3,062,277,407—we have absorbed an estimated expenditure of \$120,000,000 on account of the World War adjusted compensation act which did not figure in our operations last year. With that out of the picture our \$3,000,000,000 goal would have been attained this year at a walk. Including that, however, we have \$62,000,000 to eliminate to carry out the President's wishes.

"I wish to organize a 'Two Per Cent' club. All Federal officials and employees will be eligible for membership. The membership fee will be 2 per cent. You have estimated that to carry out your operating program this year you will expend \$3,062,277,407. If you curtail that program by 2 per cent, we will wipe out that obnoxious and highly objectionable \$62,000,000 that stands between us and victory. * * * Begin with the little things and end with the big things. Travel less, buy less, ship less, build less, employ less, write less, print less, use less, waste nothing. When casualties occur in your personnel, don't try for the speed record in filling the vacancies thus created. * * * The records of the Employees' Compensation Commission show only one Federal employee pensioned for overwork. Carefully study your program of operation with a microscope in one hand and a pruning knife in the other. * * *

The Taxpayer's Money

"You will recall that at the last meeting of this organization the President stated that a surplus of not less than \$108,000,000 should be our aim this year. The President has in mind always, as we should always have in mind, the relief of the taxpayer whose money we spend. If ever Government officials and Government employees had opportunity to immortalize themselves, that opportunity presents itself now. If ever Federal officials and Federal employees were afforded opportunity to dignify and ennoble their jobs, that opportunity is offered now. Back of the irritating and ceaseless whittling down of estimates, back of this three billion dollar campaign, back of the demand for a balanced budget, back of the urgent, insistent, continuing appeal for economy is the unalterable intention of the President of the United States to cut taxes down and relieve, not business alone, but the rank and file of the people of this great Nation. * * *

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department During
the Past Week

HEARING ON PROPOSED ROSIN STANDARD

A hearing on a proposed United States standard for opaque rosin, for which no standard has been established, will be held at the Bureau of Chemistry, Washington, D. C., on May 4, 1925, at 10 a. m., according to a recent notice approved by the Secretary of Agriculture.

STOP SEA ISLAND COTTON STANDARDS

Discontinuance of the official cotton standards of the United States for Sea Island cotton has been announced by the Secretary of Agriculture. The reason for this action is that there is no demand for the standards and no cotton from which to make copies, since practically no Sea Island cotton is now being grown in the United States, owing to the ravages of the boll weevil.

FEW EMBARGOES ON POULTRY SHIPMENTS

There is no necessity for any severe general restrictions on the shipment of poultry as a result of the outbreak of European fowl pest, says Secretary of Agriculture Gore. No embargoes have been placed on interstate movements of poultry by the department, he says, except in cases where birds are found to be diseased or exposed to disease. While doing the things necessary to stop the spread of the disease in interstate commerce, the effort of the department also has been to coordinate and to standardize, so far as practicable, the regulations on this subject adopted by the various States.

INCREASE IN INDIAN WHEAT ACREAGE

The first estimate of wheat acreage in India just received by the department from the Indian Department of Statistics brings the total of 11 countries reported to date up to 109,445,000 acres against 105,703,000 acres for the same countries last year, an increase of 3,742,000 acres or 3.5 per cent.

MEAT CONSUMPTION INCREASING

An increase in total meat consumption throughout the country is indicated by the figures showing the number of meat animals slaughtered during the calendar year for 1924 and inspected by the Federal meat-inspection service of the Bureau of Animal Industry of the depart-

ment. Compared with the calendar year of 1923 the figures for 1924 show an increase of almost 1,000,000 animals slaughtered under inspection, there being a total of 79,432,614 animals slaughtered in the year just closed. This total includes cattle, calves, sheep, goats, swine, and horses.

AGRICULTURAL CORPORATION TAXES HIGH

Eighty-six per cent of the profits of agricultural corporations and allied industries in the United States in 1922 was paid out for local, State, and Federal taxes, according to an analysis of tax statistics by economists of the department. This tax of 86 per cent of the profits of agricultural corporations was higher than that of any other type of corporate enterprise, the department says, and bears out the belief that taxes on agriculture generally are usually higher than taxes on other lines of industry, when measured in terms of income.

REPORT ON WHEAT AND RYE ACREAGES

The total winter rye acreage of 12 countries reporting to date is 27,319,000 acres compared with 25,968,000 acres for the same countries last year, according to information received by the department from the International Institute of Agriculture at Rome. This is an increase of 1,351,000 acres, or 5 per cent.

FEWER SWEET-POTATO WEEVILS

Regulations have been recently enacted by the State Board of Agriculture of Alabama covering the campaign in that State for the eradication of the sweet-potato weevil, and arrangements have been made to supply certified plant stock to the owners of weevil-infested properties in Mobile County. This action, it is expected, will expedite the work in Alabama.

ANNUAL OUTLOOK REPORT ISSUED

The general outlook for American agriculture is fairly encouraging this year as compared with recent years, although there may be a slackening in domestic demand for farm products next winter, according to the annual outlook report of the department issued last week.

Producers of the major farm products such as cotton and wheat are advised by the department to follow about the same program of production as last year. Increased acreages of these crops are not advisable this year, the department says.

A considerable increase in hog production next fall, and a corn acreage about

the same as in 1924 are recommended by the department in the second section of this outlook report. Beef cattle prices this year should average somewhat higher than last year, and those for sheep and wool should be at least on a par with those of 1924, the report says.

Dairymen are urged to make no further expansion in their industry. Higher egg prices may be expected during the season of flush production this year than last, but poultry prices may be lower.

PLAN USE OF RADIO IN AGRICULTURE

The possibilities of radio broadcasting as a means for presenting to the public the information available in the department were discussed at a meeting recently held in the office of C. W. Warburton, Director of Extension Work. It was the general opinion at the meeting that the department might well consider the organization of a regular program of agricultural information material for broadcasting from the local stations. On motion, Mr. Warburton appointed a committee of five to determine what material is available in the several bureaus which is suitable for radio broadcasting, and to arrange a program for local broadcasting during the next several months if sufficient material of interest appears to be available. The committee is also to give attention to the possibilities of arranging for the broadcasting of this material from a series of stations which would cover the entire country or such portions of it as might be interested in any particular statement which might be issued, and for making contacts with radio stations outside of Washington by field representatives or by Washington employees when traveling.

The committee appointed is as follows: J. Clyde Marquis, Bureau of Agricultural Economics, chairman; K. F. Kellerman, Bureau of Plant Industry; C. B. Smith, Extension Service; J. A. Hyslop, Bureau of Entomology; F. M. Russell, Press Service.

At the January meeting of the Kansas City U. S. D. A. Club, which was held in the private dining room of the Kansas City, Kansas, Chamber of Commerce, Representative E. C. Ellis addressed the meeting, and at the close of his address the club voted unanimously to have Judge Ellis become an honorary member. Preceding the lunch various members of the club who are in charge of the different divisions of work were introduced to Judge Ellis and each gave a brief outline of the work of his division. The meeting closed with a vote of thanks to Judge Ellis for his address.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Amendment to the Fiscal Regulations

MEMORANDUM No. 515, January 28, 1925.—Section (f) of paragraph 33 of the Fiscal Regulations of the department is hereby amended to read as follows:

33. Actual traveling expenses.

(f) The checking and portage of baggage at depots, hotels, or docks upon arrival and departure, charges for checking not in excess of prevailing rates, and portage not to exceed 25 cents at docks and 10 cents for each piece in any other case. *Provided*, That because of State laws reimbursement for the payment of any porter fee herein mentioned, other than to station porters, will not be allowed in Mississippi, Tennessee, or Arkansas.

In a recent decision of the Comptroller General of the United States (4 Comp. Gen., 410) it was held that fees to station porters for the carrying of heavy hand baggage do not constitute a "gratuity" or "tip" within the meaning of the antitipping laws, and that employees are entitled to reimbursement for fees paid to station porters. The above regulation is, therefore, amended accordingly. The change is made because heretofore porter fees were not allowed in antitipping States by the regulations.

Amendment to the Property Regulations

MEMORANDUM No. 516, February 3, 1925. Paragraph 248 of the property regulations of the department is hereby amended to read as follows:

248. *Sale of official cotton standards.*—Practical forms of the official cotton standards of the United States may be furnished to any person, subject to the conditions of, and upon compliance with, the rules and regulations of the Secretary of Agriculture under the United States Cotton Futures Act and the United States Cotton Standards Act. Moneys received from the sale of such purchased forms may be expended for the purchase of other cotton for such use.

The object of this amendment is to permit the use of moneys received from or in connection with the sale of cotton purchased for the preparation of practical forms of the official cotton standards and condemned as unsuitable for such use to be expended for the purchase of other cotton for such use. The old regulation provided that these moneys be turned into the Treasury as miscellaneous receipts, but the recent laws relating to this subject authorize the use of the moneys as indicated above.

The amendment also specifically mentions the United States Cotton Standards Act, passed subsequent to the United States Cotton Futures Act, and the department is now charged with the enforcement of the two acts.

Prior Approval of the Secretary and the Civil Service Commission Required before Assignment to Duty of Employees in Washington

MEMORANDUM No. 517, February 4, 1925.—The attention of the various bureaus, divisions, and offices of this department is invited to paragraphs 404, 417, and 434 of the administrative regulations of the department. These regulations require that the prior authority of the Secretary and the Civil Service Commission be secured before any person is employed or allowed to enter on duties in the department in the District of Columbia. Also, that extensions of temporary appointments must be recommended in sufficient time before expiration to permit full consideration by the Civil Service Commission.

It is necessary at this time to call especial attention to the above regulations.

The department has been embarrassed by having the Civil Service Commission call attention to the fact that its rules were not observed in instances where temporary appointees were allowed to enter upon duty prior to formal authority for such temporary appointment. The commission has been advised that no such cases will be submitted in the future.

Bureaus should direct all officers handling personnel matters to carefully observe the above regulations and maintain an effective check against the assignment to duty of any person until the Secretary and the Civil Service Commission have approved the proposed appointment, transfer, or reinstatement. Officers responsible for the employment and assignment of personnel will be held accountable for the observance of these instructions.

LIVESTOCK QUARANTINE LAW ENFORCED

The strict enforcement of the livestock quarantine law dealing with interstate movement of domestic animals is shown by lists of prosecutions published monthly by the Bureau of Animal Industry. In the list published in a recent issue of the bureau's service and regulatory announcements, violations covered a wide range. Typical of these offenses are the interstate transportation of a dead animal in the same car with live animals; accepting cattle for interstate transportation without tuberculin test; interstate transportation of cattle without a tuberculin test; removal from point of destination of car which had been used in the interstate movement of cattle affected with Texas fever without cleaning and disinfection; and the interstate movement of cars which had previously contained diseased animals without first cleaning and disinfecting the cars. Fines imposed varied from \$50 to \$100. In the enforcement of the livestock quarantine law, the solicitor of the department prepares the case from the evidence submitted by the inspectors

of the Bureau of Animal Industry, after which it is referred to the Department of Justice for prosecution.

Violators are chiefly railroad companies and livestock owners. While compliance is much better than in former years, it is apparent that many railroad employees and stockmen are either unfamiliar with the law and the regulations promulgated thereunder or are careless in meeting their requirements.

ARGENTINE VISITORS AT DEPARTMENT

Senor Eduardo F. Pereda, a prominent cattleman from Argentina, recently visited the Bureau of Animal Industry, accompanied by his brother-in-law, Senor Eduardo Racedo, Secretary of the Argentine Embassy at Washington.

Senor Pereda was gathering information on tick eradication and beef cattle and sheep husbandry which might be applicable to the management of his extensive livestock enterprises at home. His visit to this country was timed so as to enable him to officiate as judge of the Hereford classes at the recent International Livestock Exposition at Chicago, where he performed a difficult task in a most satisfactory manner. Since that event he has visited numerous livestock establishments throughout the country, including some on the Pacific Coast.

During his visit he purchased several head of breeding cattle for export to Argentina, including the grand champion and junior champion Hereford bulls at the Chicago show.

In 1915 Senor Pereda accompanied his father to the United States, at which time they purchased five head of Herefords, which have evidently given a good account of themselves.

Marion Butters and A. M. Hulbert, assistant directors, agricultural extension service, State University of New Jersey, New Brunswick; W. J. Wright, State leader of junior extension, agricultural extension service, New York State College of Agriculture, Ithaca; G. L. Farley, supervisor of junior extension work, agricultural extension service, Massachusetts Agricultural College, Amherst; and Madge T. Bogart, in charge home economics extension, agricultural extension service, Pennsylvania State College, State College, visited the department January 26-29 to study recent developments of work in the various bureaus relating to their extension programs, and to discuss phases of extension activities in their respective States with members of the Office of Cooperative Extension Work.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is meant by "a drainage survey" as made by the Forest Service?

Answer. The term "drainage survey," as used by the Forest Service, is the survey of an area wherein all drainage and stream lines, man-made improvements, such as roads, houses, bridges, etc., are shown in their true relative horizontal location without respect to vertical position or relation. A topographic sheet as prepared by the Geological Survey, with the contours eliminated, would compare with a "drainage survey" of the area.

Question. What are the essential factors in producing clean milk?

Answer. While there are many sanitary methods now practiced in producing milk, it has been found that four factors have proved especially essential in producing milk with a low bacterial count. These factors are: Clean, healthy cows; thorough cleaning and sterilization of all milk utensils; the use of small-top milking pails; and prompt cooling to a low temperature. Of course there are other important considerations in producing a high-grade milk, which should be observed, but they do not influence the total bacterial count to a great degree. Farmers' Bulletins 602 and 976 discuss phases of clean milk production.

Question. How much of the money collected by the department as excess wool profits has been returned to growers?

Answer. The Bureau of Agricultural Economics reports that of \$754,140.85 collected from dealers as 1918 excess wool profits, \$442,496.85 has been returned to producers. Because producers involved in original transactions can not be located, \$222,919.09 remains undistributable. Payments amounting to \$49,020.46 were made by a few dealers in such a way that the sum can not be distributed until the legality of the 1918 wool regulations has been finally passed upon by the Supreme Court. This leaves \$39,704.45 in the process of distribution.

Question. Has the department succeeded yet in producing a satisfactory seedless grapefruit?

Answer. Such progress as has been made toward the production of seedless grapefruit is largely the result of individual effort outside of the depart-

mental corps of workers. The department has not addressed itself to this problem, except the selection work carried on by A. D. Shamel in connection with his citrus bud selection studies in California, which is resulting in the establishment of a very desirable strain of the Marsh Seedless Grapefruit.

Special Harvest Weather Forecast Service for New York Farmers

The special harvest weather forecast service, maintained by the United States Weather Bureau in cooperation with the New York State College of Agriculture and the New York County Farm and Home Bureaus, is an attempt to give the farmers advance information about the weather. The forecasts cover a period of from one to four days in advance. They are sent out by telegraph and by telephone daily, about 10 a. m., from the Weather Bureau office at Ithaca, N. Y. The county and home bureau agents have charge of the local distribution within the counties. The forecasts are prepared especially for the use of farmers during harvest operations. They usually cover a longer period than do the regular forecasts published in the newspapers. They give the probable accuracy or weight which, in the opinion of the forecaster, the farmer should give to each forecast when planning his work. It is planned to make the forecasts available to farmers having telephones within two hours after they leave the hands of the forecaster.

Several years ago, Prof. G. F. Warren, head of the department of agricultural economics and farm management, New York State College of Agriculture, who operates a large general farm near Ithaca, began the practice of calling the Weather Bureau office daily by telephone to see whether the weather conditions were favorable for cutting hay. He insisted that the forecast cover as long a period as possible, and that it include an opinion or estimate, on a percentage basis, of the risk he would run in planning his work according to the forecast. He found this special information so helpful that he urged that this sort of service be extended to farmers generally.

During the following two seasons this kind of service was made available to farmers having telephone connection with the Ithaca Weather Bureau office, and reports as to its value generally confirmed the experience of Professor Warren.

During July and August harvest weather forecasts are telegraphed to the county agents in some 35 counties of

New York State for such distribution to farmers as is possible. In one county, by the use of party lines, practically every farmer having a telephone receives the service. A vote, taken by telephone at the end of last season, was unanimous for its continuance. In another county a ballot arranged for at the county fair showed the same result, while in another county it was estimated that the farmers of the county made a saving of \$25,000, through the increased value of the hay crop alone, as a result of a general use of the service.

The Weather Bureau office at Ithaca has on file about 100 letters from farmers who have used the service the past two years. All agree that it is helpful in harvest operations. Extracts from a few of these letters may be given. They are typical of many others:

"I wanted to attend a sale on Tuesday, but the forecast said that it would rain Wednesday, so I drew oats instead. Heavy rain set in Wednesday afternoon, but my oats were all in the barn."

"The accuracy of the forecasts was proved to me last year, so this year I had confidence in them and planned my work accordingly. I was not caught by rain during the entire season."

"I was ready to cut a field of clover. The weather looked good, but the weather report said that rain was coming. I held off. The forecast saved me a great loss, for it rained nearly all week."

"The forecast was for good weather, so I started right in to mow, although it was still drizzling and looked unsettled. My neighbors did not cutting that day. The forecast put me ahead a full day."

"I had a fine field of clover to cut, but hesitated because it looked like rain. The forecast said good weather for three days. I went ahead and got it all up in good shape."

At the January meeting of the Lausda Club, the following new officers for the ensuing year were elected: President, R. D. Forbes, in charge of the Southern Forest Experiment Station; vice president, Dr. A. F. Staub, Bureau of Animal Industry; secretary-treasurer, Miss Vera M. Spuler, Southern Forest Experiment Station. In addition to election of officers, the program of the meeting included a talk by Col. Dennis Quinlan, coordinator, Fourth Area, on "Government," in which he presented in an inspiring way the broad human relations which the United States Government bears to citizens and workers, and the superior character of our Government as a "spiritual democracy."

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

SWEET-POTATO WEEVIL ERADICATION

While the sweet-potato weevil eradication campaign has shown consistent progress in Florida, a lack of personnel in the Mississippi area made it impossible to reduce the number of infested farms until the favorable weather of the last year was experienced. The suppression of the sweet-potato weevil represents the trial of a new idea in insect control, that of eradicating a well-established insect in the presence of cultivated hosts. The methods are all cultural in nature and include field cleaning, careful storage of the crop, and the utilization of weevil-free planting stock. When these steps are followed carefully, there results a period of several weeks during early spring when any weevils which may have survived in the old field are without food. The progress of this work is greatly expedited by moving the new field some distance away from the previous year's planting, so that food for the weevil is not near at hand. Experiments have shown that the sweet-potato weevil can live for only two or three weeks without food during spring, and since the adult is sluggish, it does not normally go far in search of food.

The difficulty connected with this work lies in the fact that careful inspection must be made on a much larger number of farms than those actually known to harbor the weevil. In the Florida operations during 1923-24 only 56 farms were actually found infested by the weevil in the three eradication areas, but careful inspection records were maintained on 1,130 properties. More satisfactory progress has been made in the Baker-Charlton area in northern Florida and southern Georgia. Two hundred and fifty properties have at some time shown infestation of the weevil, but no infestations were found to be present during the last inspection in 1924.

In Mississippi the infested area covers most of the four southern counties of Harrison, Jackson, Hancock, and Pearl River. With a small force of inspectors it was impossible to cover this area adequately, and owing to the warm winters, when practically no winter killing of the insect occurred, the number of infested farms increased slightly each year, though the boundaries of the infested territory were not extended. By 1923 a total of 648 farms had at some

time been infested with the weevil, and during this period the weevil had apparently been eradicated from 91 farms. The winter of 1923-24 was unusually severe, killing exposed tubers and vines and greatly lightening the work of the inspectors in clearing the fields, so that no food would be available for the weevil during early spring. This alone undoubtedly did much to reduce the number of infested properties, and the eradication efforts were aided still more by the severe drought during the summer of 1923, which was the direct cause of a short crop. As a result of these weather conditions and intensified efforts on the part of the inspectors of the Mississippi State Plant Board and the Bureau of Entomology, the number of infested farms was greatly reduced, only 31 properties in southern Mississippi showing the presence of the weevil during the fall inspection of 1924.

WITH EXTENSION FORCES

DAIRY HERDS IMPROVED

Dairying and forage crops represent the greatest agricultural values in the county, farmers of New London County, Conn., said when discussing a program for extension work with County Agent H. T. Johnson in 1922. But many dairymen were getting discouraging returns from their business and had half decided to quit it. So dairying was given a major place on the program.

A little later the State dairy specialist, A. R. Merrill, was invited to meet with the dairy farmers of the county to help them with their problem. Practically everybody at this meeting agreed that the dairy farmer's profit or loss depended to a great extent on the high or low production of his cows. Most of them agreed, too, with the specialist that purebred stock of known high production introduced into a herd would raise its production with slight increase in expense, and consequently would bring up the owner's profits. Some said grade stock was good enough and would cost much less, but offered no opposition to the plans proposed.

A dairy stock survey was planned as the first step. It was begun by Mr. Johnson, carried on some months after his resignation by the State specialist, and completed by Mr. Johnson's successor, Walter T. Clark.

The simplest methods that could be devised were used in the survey. One man interested in dairy improvement was chosen in each community to act as chairman for a local committee of his own selection, which was to obtain data

on the stock of each dairy farmer in the community.

Only one form was used in collecting the information, a 4 by 6 inch card, printed on but one side. The farmer's name and address were asked, the breed of his herd, number of cows and bulls of registered, grade, or common stock, with a brief definition of these terms. How many of the cows had been raised on that particular farm, whether milk was sold wholesale or retail, the average amount sold daily, and the number of cows bought and sold during the previous year were other points included.

When the first chairman's cards were received the summary for his community was sent with a letter to all the chairmen. Other summaries were prepared as material came in and this stimulated action in committees which had not yet finished their work.

The returns, when totaled, showed that on 450 farms reporting, there were 4 per cent purebred, 34 per cent grade, and 62 per cent scrub or common cows, and 23 per cent registered, 32 per cent grade, and 45 per cent scrub bulls. Over 800 cows had been bought during the previous year and more than 1,000 culled from the herds and sold. This proved what was surmised at the meeting, that farmers were buying a number of cows not especially desirable in quality and selling many of them later because of their poor production. It was decided to make the possibility of developing high-producing cows on the dairyman's own farm by the use of purebred breeding stock the principal feature of the dairy work.

Articles featuring the successful work of individual dairymen in the county in improving their herds were run in the local newspapers. Essay contests on the value of a purebred bull in the dairy herd were held by the papers for boys and girls. A one-day tour was held to visit farms in the county on which there were several generations of cows showing improvement in type and production in each generation by the use of bulls of high-production breeding. Local leaders, county agent, specialist, and breed-association representatives visited every owner of a scrub bull in a final intensive campaign, in January, 1924, and when the results of the two years' work were recorded it was found that over 120 purebred dairy bulls had been placed in the county, more than double the number set as a goal.

C. W. Creel, director of the Nevada Agricultural Extension Service, is spending a few days in the department in conference with the Office of Cooperative Extension Work, regarding matters relating to extension work in that State.

BRIEF REVIEWS OF NEW BULLETINS

Common Vetch and Its Varieties. By Roland McKee, agronomist, and Harry A. Schoth, assistant agronomist, office of forage-crop investigations, Bureau of Plant Industry. Pp. 20, figs. 8. January 26, 1925. (Department Bulletin 1289.) Price, 5 cents.

As a commercial crop, vetch is confined to the region in Washington, Oregon, and California having mild winter temperatures. Only the most hardy varieties will survive the average winter of the South Atlantic and Gulf Coast States. Not enough experimental work has been done to determine the limitations of the several varieties in the last-named region, but it seems probable that when properly handled the most winter-hardy strains can be grown in limited areas at least. This bulletin discusses and compares the different varieties as to seed and straw yield, rate and time of seeding, method and depth of seeding, viability of seed, winter hardiness, and numbers of other factors.

Loss of Nicotine From Nicotine Dusts During Storage. By C. C. McDonnell, chief, and J. D. Young, assistant chemist, insecticide and fungicide laboratory, miscellaneous division, Bureau of Chemistry. Pp. 15, figs. 13. January 27, 1925. (Department Bulletin 1312.) Price, 5 cents.

"Nicotine dusts," which have recently come into extensive use for the control of certain insect pests, deteriorate in strength in the usual form of commercial packing. This makes it difficult for the manufacturers to label their product as to its percentage of ingredients in accordance with the Federal insecticide and fungicide act, and the consumer has no assurance that the product he is obtaining will be efficient. This bulletin contains the results of some tests and investigations undertaken by the department to determine the extent of such losses and indicate the most suitable type of container which would make possible the marketing of a more uniform and standard product. Among other results it was found that canvas bags, pasteboard boxes, and paraffined boxes are unsatisfactory containers for nicotine dusts. Air-tight metal or glass containers only should be used for packing them commercially.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 51, No. 8. December, 1924. Pp. 701-800. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review. Volume 52, No. 10. October, 1924. Pp. 473-520, pl. 1, figs. 14, charts 12. Special articles: Records of total solar radiation intensity and their relation to daylight intensity. By H. H. Kimball.—Application of Schuster's periodogram to long rainfall records, beginning 1748. By Dinsmore Alter.—The vapor pressure of ice and of water below the freezing point. By E. W. Washburn.—Temperature lag of the oceans. By W. J. Humphreys.—Graphical method of compounding vectors. By W. C. Haines.—Why an oak is often struck by lightning;

a method of protecting trees against lightning. By R. N. Covert.—Some features of the climate of Alaska. By M. B. Summers.—On the application of the frontal theory to cyclones in the Sahara. By M. L. Petitjean.—Secondary depressions in the Adriatic Sea. By F. Eredia.—Notes on the West Indian hurricane of October 14-23, 1924. By C. L. Mitchell.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 88. Regulations for warehousemen storing dried fruit. Pp. 28. January, 1925. Price, 5 cents.

Bureau of Chemistry. No. 182. Notices of Judgment 12551-12600. Pp. 309-333. January 31, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of January 26-31, 1925. Copies of these publications may be obtained from the stations issuing them.

Report of the Alaska Agricultural Experiment Stations, 1923. C. C. Georgeson. Pp. 37, figs. 24. January, 1925.

Sugar beets in Louisiana. A. F. Kidder and C. E. Coates. (Louisiana Sta. Bul. 192, pp. 23. December, 1924.)

Spring small grains. T. A. Kieselbach and W. E. Lyness. (Nebraska Sta. Bul. 201, pp. 45, figs. 14. November, 1924.)

Forty-fourth annual report of the New Jersey State Agricultural Experiment Station and the thirty-sixth annual report of the New Jersey Agricultural College Experiment Station for the year ending June 30, 1923. J. G. Lipman et al. Pp. 414, pls. 17, figs. 10. 1924.

Statistical studies on inheritance in the tomato. C. E. Myers. (Pennsylvania Sta. Bul. 189, pp. 31, figs. 14. September, 1924.)

Farm organization and cost of production on cotton farms in Anderson County. S. C. W. C. Jensen. (South Carolina Sta. Bul. 221, pp. 101, figs. 18. September, 1924.)

Thirty-seventh annual report of the South Carolina Experiment Station of Clemson Agricultural College for the year ended June 30, 1924. H. W. Barre. Pp. 95, figs. 30. December, 1924.

Cotton variety experiments at the main station, 1912 to 1922. B. Youngblood. (Texas Sta. Bul. 321, pp. 22. May, 1924.)

Chemical analyses and fertility of West Virginia soils. O. C. Bryn and E. P. Dietrick. (West Virginia Sta. Bul. 184, pp. 27, fig. 1. July, 1924.)

Organization and management of typical West Virginia farms. A. J. Dadisman. (West Virginia Sta. Bul. 187, pp. 75, figs. 26. August, 1924.)

Articles in Current Publications
by Department Workers

Adams, L. A. (Agricultural Economics). The consumer judges. *Hoard's Dairyman*, January 30, 1925.

Ashbrook, Frank G. (Biological Survey). Fur farming—A new field for the animal husbandman and farmer. *The Fox Breeder's Gazette*, vol. 1, No. 3, pp. 33-34-35, December, 1924.

Barber, G. W. (Entomology). *Doratura stylata* Bohm in Massachusetts. *Psyche*, vol. 31, Nos. 3-4, p. 170, June-August, 1924.

Bryum, E. K. (Miss. St. Plant Bd.) & Holloway, T. E. (Entomology). The new pink borer of sugar cane and corn (Lepidoptera, Noctuidae). *Annals of the Entomological Society of America*, vol. 17, No. 4, pp. 469-472, December, 1924.

Campbell, E. E. (Entomology). Preliminary report on the use of calcium cyanide as a soil fumigant for wireworms. *Journal of Economic Entomology*, vol. 17, No. 5, pp. 562-567, October, 1924.

Chittenden, F. H. (Entomology). The Acanthididae (beetle) (Cephalopoda, Acanthididae). *Canadian Entomologist*, vol. 56, No. 12, pp. 286. December, 1924.

Cram, E. B. (Bureau of Animal Industry). Demodectic mange of the goat in the United States. *Jrn. Am. vet. med. assn.*, vol. 66, No. 4 (n. s. v. 19), pp. 475-480, January, 1925.

Davidson, W. M. (Entomology). Observations and experiments on the dispersion of the convergent lady-beetle (*Hippodamia convergens* Guerin) in California. *Transactions of the American Entomological Society*, vol. 50, No. 3, pp. 163-175, 3 figs. September, 1924.

Ezekiel, Mordecai (Agricultural Economics). Will hog prices stay up? *Farm Journal*, January, 1925.

George, Frank (Agricultural Economics). How about the consumer? *Better Crops*, January, 1925.

Hall, M. C. (Bureau of Animal Industry). Tapeworms of sheep. *Vet. med.*, vol. 20, No. 1, pp. 38-39, January, 1925.

Hall, M. C. (Bureau of Animal Industry). Warfare against worms and the anthelmintic weapons. *Act. Bul. (Suppl. to Army med. bul.)*, vol. 14, No. 3, pp. 222-230. December 10, 1924.

Henley, R. R. (Bureau of Animal Industry). A modification of the chloroform process for clarifying hog cholera serum. *Jrn. Am. vet. med. assn.*, vol. 66, No. 4 (n. s. v. 19), pp. 462-467, January, 1925.

Hudson, C. S. (Bureau of Chemistry). Relations between rotatory power and structure in the sugar group. VI. The rotatory powers of the aliphatic and aromatic methyl d-Xylosides and of Methyl L-Arabinoside. *J. Am. Chem. Soc.*, vol. 47, No. 1, January, 1925.

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Lincoln, Frederick C. (Biological Survey). Notes on the bird life of North Dakota with particular reference to the summer waterfowl. *The Auk*, vol. 42, No. 1, pp. 50-64, January, 1925.

Mohr, J. R. (Bureau of Animal Industry). The California and Texas foot-and-mouth disease outbreaks. *Nat. Wool Grower*, vol. 14, No. 12, pp. 21-23, December, 1924.

Nichols, P. F., and Powers, Ray (Bureau of Chemistry). Dehydrated spinach: manufacture, handling, and storage. *Am. Food J.*, vol. 20, No. 1, January, 1925.

Salc, J. W. (Bureau of Chemistry). Imitation fruit drinks. *Am. Food J.*, vol. 20, No. 1, January, 1925.

Sherman, Caroline B. (Agricultural Economics). It helps the farmers. *American Bankers' Association Journal*, January, 1925.

Smith, C. M., and Miller, G. E. (Bureau of Chemistry). Influence of mercury and other impurities on the rate of oxidation of white arsenic by nitric acid. *Ind. Eng. Chem.*, vol. 16, No. 11, November, 1924.

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SQUIRRELS MAY AID REFORESTATION

A brief study conducted by the Biological Survey on the activities of timber squirrels in their relation to reforestation has disclosed some interesting information. While these rodents consume an enormous number of pine seeds in a year, it is possible that in at least the Harney National Forest, where there is considerable natural reforestation, they do more good than harm. The supervisor of this forest states that the "red squirrel is one of our most faithful assistants in gathering the cones from which the seeds are extracted. Every fall we fix a price which we will pay for cones and the settlers immediately search for squirrel hoards to secure them. Were it not for the squirrels storing these, our cones would cost considerably more." In many sections of the Black Hills Forest, it is doubtful whether this value could be placed on the squirrel, because natural reforestation there is difficult and the loss of seeds is more noticeable. Squirrel caches are often found to contain three and four bushels of cones. One collector claims to have taken 14 bushels from one cache. It is interesting to note that this systematic rifling of the squirrels' winter food stores does not appear to affect their ability to come through the cold season in good condition, probably due to the fact that all the stores are not found.

Film Shows Control of Worms on Lawns and Greens

Lumbricus terrestris, favorite of the great Darwin, admired by scientists throughout the ages and ever the friend of the farmer, makes his debut on the motion-picture screen as the deep-dyed villain of a new department educational film, "Laying Lumbricus Low." *Lumbricus terrestris*, which is technical for "fishworm," has been discovered as injurious to lawns and putting greens of golf courses, and this film, designed to instruct lawn growers and greenkeepers in methods of preventing damage by the worms, concerns only lumbricus' activities in this line of villainous endeavor.

The story tells of Don Duffer, a golfer, and Jack Handy, a home owner. Don becomes dismayed because the greens of his golf course have become bumpy, causing him to miss many putts and say many naughty words. Jack Handy is worried because he discovers that his lawn is becoming "bald" in spots. Finally, when conditions become worse and worse, one golfer remembers that the United States Department of Agriculture and the United States Golf Association are cooperating in turf investigations and he writes to the Government agency for advice. The Government turf specialist diagnoses the symptoms as "worms" and he replies—prescribing the remedy. The golfers pass the advice on to the club greenkeeper, who follows it and "cures" the greens of the worms. Don Duffer passes the information on to Jack Handy—and Jack to his neighbors, who proceed to rid their lawns of the misguided wrigglers.

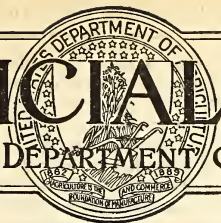
Close-ups show the worm at work and graphically depict damage to turf by the activities of lumbricus. The scenes showing the worms leaving their burrows after the application of corrosive sublimate are the leading features of the film. The close-ups of the worms included in this film are regarded as an important contribution to nature study. This is a one-reel picture and was produced by the department in cooperation with the United States Golf Association.

CIVIL SERVICE ANNOUNCEMENT

Assistant engineering draftsman, \$1,500—A vacancy in the position of surveyor draftsman, Forest Service, San Francisco, Calif., at \$1,500 a year, and vacancies in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examination. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes March 10, 1925.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., FEBRUARY 18, 1925

No. 7

VALUE AND LIMITS OF AGRICULTURAL RESEARCH

Farming Can't Be Greatly Speeded but Large Farms Necessary, Says Sir Daniel Hall

The possibilities and the limitations of the results of research in improving agriculture were brought out with unusual force and understanding in the talk made recently before research men of the department by Sir Daniel Hall, scientific adviser to the Minister of Agriculture of Great Britain. Important excerpts from this address follow:

* * * Great are the achievements and still greater the possibilities of agricultural research, but we must recognize that there are limitations to the effect of science upon agriculture which do not hold for the other industries. In the first place in agriculture we are dealing with a living organism and the amount of control that we have obtained over plant or animal, over that stubborn essence we call life, is far less than we can exercise over inanimate nature, over iron or cement, over even the ether or the atom. When we attack vital problems we find that we can not speed up processes or enlarge the unit in the way we can deal with the dynamo or spinning frame. It still takes the wheat plant six or nine months to develop, and cows bring forth their calves neither more quickly nor more numerous for us than they did for Abraham. We see no way of growing three or four crops a year under temperate climatic conditions. The organisms we are dealing with will go through their cycle and you can not hurry them. When you start hustling you find you let in secondary troubles of all sorts. These limitations lie in the nature of things, and though on looking back we can count up the immense advances that agriculture owes to the application of knowledge we must not hope for sudden developments or revolutionary

changes such as have been seen in flying or wireless telegraphy. In fact, for the time being I am bound to say that agriculture is actually suffering from the rapid developments and scientific achievements that have distinguished other industries. I say this advisedly and most solemnly.

Limit to Town Increase

Agriculture is the fundamental industry, because we must all be fed, and yet you can not point to any part of the world where agricultural wealth is being turned out and find the producers in a flourishing condition. The rewards in agriculture, whether to the capitalist entrepreneur or to the laboring man, are not commensurate with those obtainable in industry or commerce, and so men are being drawn away to the towns and capital is being diverted from the farms. The movement is one common to all civilized countries, its sources are social as well as economic. The lure of the town has been secular, but modern facilities of communication and transport have given it a range of action hitherto unknown; yet it can not go on forever, for the world must be fed. One must interpret the steady rise of food prices which has marked this century, a rise now being resumed after the excessive fluctuations caused by the war, as evidence that we are approaching a limitation to the development of the towns because there is not food enough to go round.

The old economists would see a simple solution to this impasse; prices of food have only to rise sufficiently and men will be attracted back to the land in order to secure the profits it promises—the balance will be restored. But looking back historically, has this ever happened? I can find no example of an urban population migrating into the country. If the countryside does replenish itself in men it is by breeding and by finding space in the country for the country bred. The great increase in the food supplies of the world the last half century has witnessed has been due to the new countries becoming accessible,

(Continued on page 6)

APPROPRIATION ACT PROVIDES \$124,000,000

Roads Take \$80,000,000—Limits Amounts to be Expended for Salaries in Washington

The agricultural appropriation bill for the fiscal year ending June 30, 1926, carrying a total of \$124,774,441, was passed by Congress February 5, and was approved by the President February 10. This amount includes \$80,000,000 for roads. In addition \$12,340,750 is provided for activities under the Department of Agriculture by permanent and indefinite appropriations, which makes the total appropriation for the department for 1926, \$137,145,191. The bill as finally agreed upon carries \$132,347 less than the amount provided by the Senate bill, an increase of \$110,968 over the House figure, and \$62,540,005 more than the total funds for 1925. The large increase over 1925, however, is due to the fact that there is an increase of \$61,000,000 for road work. This does not mean that there is an actual increase in highway construction, as might be inferred, but merely that more funds will be needed during 1926 to meet cash withdrawals from the Treasury. During 1925 these withdrawals are being met largely from existing balances which, however, will be practically exhausted by June 30, 1925.

The restrictive provision carried in the appropriation act for the current fiscal year, relating to expenditures for personal services in the District of Columbia in accordance with the classification act of 1923, is continued in the 1926 bill, with several modifications made necessary by rulings of the Comptroller General. The clause restricting the average of all salaries paid under any grade under the classification act to the average of the compensation rates for the grade is made applicable to those grades in which only one position is allocated. It is also provided that an employee

passing from one grade to a higher grade is not required to suffer a reduction in compensation because of such advance.

While the agricultural bill itself makes no provision for the continuance during the fiscal year 1926 of the rates of compensation for field employees to conform with rates fixed by the Classification Act of 1923 for employees in the District of Columbia, this matter has been taken care of through incorporation in the Treasury and Post Office Departments appropriation act for 1926 of legislation extending for another year the present

authority and making it applicable to all departments of the Government.

The bill as passed contains a restriction as to the maximum amount which can be expended under each bureau for salaries in Washington. For the department as a whole this will involve a decrease of about \$100,000 in the Washington pay roll, and will accordingly necessitate a reduction in the Washington force.

The following table shows the total funds of the department for 1926, as compared with 1925:

Department of Agriculture Funds for 1926

	Appropriation, 1925	Appropriation, 1926	Increase or decrease
1. So-called regular or ordinary items:			
Annual appropriation act.....	\$41,993,996	\$42,614,441	+ \$620,445
Meat inspection (permanent annual appropriation).....	3,000,000	3,000,000	-----
	44,993,996	45,614,441	+ 620,445
2. Special conservation items:			
Cooperative forest fire protection.....	401,900	660,000	+ 258,100
Acquisition of forest lands.....	818,540	1,000,000	+ 181,460
Cooperative farm forestry.....	50,000	50,000	+ 50,000
Cooperative distribution of forest planting stock.....	50,000	50,000	+ 50,000
Acquisition of lands for upper Mississippi River wild life and fish refuge.....	-----	400,000	+ 400,000
	1,220,440	2,160,000	+ 939,560
3. Road items:			
Forest roads and trails.....	6,000,000	4,000,000	- 2,000,000
Federal-aid highway system.....	13,000,000	76,000,000	+63,000,000
	19,000,000	80,000,000	+61,000,000
4. Permanent and indefinite appropriations (exclusive of permanent meat inspection fund):			
Cooperative agricultural extension work (Smith-Lever Act).....	4,580,000	4,580,000	-----
Cooperative construction of roads and trails, national forests.....	1,000,000	1,000,000	-----
Roads and trails for States, national forest fund.....	590,500	523,000	- 67,500
Cooperative work, Forest Service.....	1,800,000	1,800,000	-----
Payments to States and Territories, national forest fund.....	1,240,250	1,307,750	+ 67,500
Payments to school funds, Arizona and New Mexico, national forest fund.....	50,000	50,000	-----
Refunds to depositors, Forest Service.....	75,000	75,000	-----
National Forest Reservation Commission.....	25,000	5,000	- 20,000
	9,360,750	9,340,750	- 20,000
Total budget.....	74,575,186	137,115,191	+62,540,005

The total amount provided for carrying on the regular or ordinary activities of the department during the fiscal year 1926 including the permanent annual appropriation of \$3,000,000 for meat inspection, is \$45,614,441, compared with, \$44,993,996 for 1925. This is shown, by bureaus, in the following table:

Appropriations for Ordinary Activities, 1926, by Bureaus

Bureaus	Appropriation, 1925	Appropriation, 1926	Increase or decrease
Office of Secretary.....	\$940,655	\$967,097	+ \$26,442
Office of Editorial and Distribution Work.....	1,102,000	1,089,000	- 13,000
Office of Experiment Stations.....	1,789,648	1,775,246	- 14,402
Extension Service.....	2,952,820	2,895,704	- 57,116
Weather Bureau.....	2,352,535	2,343,192	- 9,343
Bureau of Animal Industry.....	11,350,384	11,479,676	+ 129,692
Bureau of Dairying.....	491,671	496,640	+ 4,969
Bureau of Plant Industry.....	3,837,655	3,881,073	+ 43,418
Forest Service.....	8,044,865	8,193,195	+ 149,050
Bureau of Chemistry.....	1,496,190	1,502,188	+ 5,998
Bureau of Soils.....	391,600	403,860	+ 12,260
Bureau of Entomology.....	2,153,638	2,554,743	+ 401,105
Bureau of Biological Survey.....	930,540	972,768	+ 42,228
Division of Accounts and Disbursements.....	74,440	78,460	+ 4,020
Library.....	70,960	68,180	- 2,780
Bureau of Public Roads.....	492,195	484,964	- 7,231
Bureau of Agricultural Economics.....	4,738,742	4,738,056	- 686
Bureau of Home Economics.....	107,024	117,244	+ 10,220
Insecticide and Fungicide Board.....	180,795	200,795	+ 20,000
Federal Horticultural Board.....	839,914	756,110	- 83,804
Packers and Stockyards Administration.....	475,680	480,000	+ 4,320
Grain Futures Administration.....	111,530	111,530	-----
Seed Grain Loan Collections.....	19,315	24,000	+ 4,685
	44,993,996	45,614,441	+ 620,445

¹ Exclusive of positions transferred from bureaus, an actual decrease of \$26,000.

² Exclusive of transfers to other bureaus, an actual decrease of \$9,280.

³ Exclusive of transfers to and from other bureaus, an actual decrease of \$8,920.

⁴ Exclusive of transfers to and from other bureaus, an actual decrease of \$9,856.

⁵ No actual change; positions transferred from another bureau.

Increases aggregating \$1,028,868 and reductions amounting to \$408,423 were made in certain items in the regular or ordinary activities of the department, as follows:

Increases

Office of Experiment Stations:	
General expenses (bibliographical work).....	\$1,680
Bureau of Animal Industry:	
Tuberculosis eradication—	
Operating expenses.....	50,594
Indemnities.....	150,400
Animal husbandry (range livestock investigations at Fort Keogh, Mont.).....	22,225
Bureau of Dairying:	
General expenses.....	6,534
Bureau of Plant Industry:	
Fruit diseases (investigations in Pacific Northwest).....	3,550
Forest pathology—	
Chestnut blight investigations.....	9,905
Pathological work at forest experiment stations.....	2,095
White pine blister rust control (Western States).....	15,000
Drug and other plants (plant geography).....	5,000
Cereal investigations—	
Breeding rust-resistant wheat.....	16,975
General cereal investigations, including work at Moro, Oreg., station.....	19,340
Sugar plant investigations—	
Production of blight-resistant sugar beets.....	5,000
Introduction and testing of Russian varieties of white-flowered resistant varieties of sugar beets.....	10,000
Pomological investigations—	
Fruit growing and handling in California.....	7,500
Apple handling problems in Virginia.....	5,000
Gardens and grounds (maintenance of greenhouses).....	1,520
Foreign seed and plant introduction (repairs and maintenance at Bell, Md., Chapman Field, Fla., and Chico, Calif., field stations).....	6,369
Forage crop investigations (adaptability of foreign red clovers).....	2,965
Forest Service:	
Administration of national forests—	
Strengthening fire control organization.....	30,000
Technical and scaling work in connection with increasing timber business.....	25,600
Administration of land purchase under Weeks law.....	28,450
Cooperation with War Department in airplane forest-fire patrol.....	50,000
Supplies and equipment (motor boat for Alaska).....	10,000
Improvement of national forests (dam, Cass Lake, Minnesota National Forest).....	5,000
Bureau of Chemistry:	
Enforcement of food and drugs act.....	10,000
Enforcement of naval stores act.....	4,280
Bureau of Soils:	
Soil Surveys.....	14,000
Bureau of Entomology:	
Deciduous fruit insects (blueberry maggot and peach insects).....	20,000
Cereal and forage insects (alfalfa weevil).....	5,000
Southern field crop insects—	
Cotton hopper.....	7,500
Arizona cotton weevil.....	7,500
Forest insects (western bark beetles).....	11,410
Truck crop and stored product insects (berry insects).....	5,000
Preventing spread of moths.....	149,840
Preventing spread of European corn borer.....	160,000
Preventing spread of Mexican bean beetle (research).....	2,615
Preventing spread of Japanese beetle.....	38,930

(Continued on page 8)

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

USE HOME-GROWN CLOVER SEED

More general use of home-grown clover seed, in the opinion of the department, would do more than any other one thing toward solving the problem of red clover failure in this country. If methods can be found by which small acreages of domestic red-clover seed can be conveniently harvested and hulled for home use, more dependence could be put upon the supply of home-grown seed and less would need to be imported. As far as the investigations of the department have progressed, it was found that Italian seed is practically everywhere unsatisfactory, and that French and Chilean seed, while giving good yields in some parts, is unsatisfactory in Iowa, Minnesota, and elsewhere where the winters are severe.

CLIMATE OF ALASKA

It is a surprise to many people, says the Weather Bureau, to learn that tropical daytime temperatures are recorded in Alaska every summer, and that there are parts of the Territory, notably in the Aleutian Islands and along the southern coast, where zero readings have never been observed. While the climate of Alaska presents great contrasts, and in some sections is quite rigorous at times, it is healthful and invigorating. The economic development that has already taken place in the Territory has been achieved largely through the aid of climatic conditions, rather than in spite of them.

CONFERENCE ON COTTON MARKETING

A national conference of representatives of cotton producers and of the cotton trade and textile industry in the United States has been called at Washington, D. C., February 24, by the department. The meeting will convene at 10 a. m., in room 411 of the Bieber Building, 1358 B Street, SW., Washington, D. C.

ACCREDITED HERDS INCREASE

A summary of tuberculosis eradication work among livestock, just issued by the department, shows noteworthy progress during December, 1924. The number of herds of cattle officially accredited as free from tuberculosis passed the 60,000 mark. Tuberculin testing was particularly active during the month in Minnesota, Iowa, Wisconsin, Illinois, and New

York. The number of counties accredited as being virtually free from bovine tuberculosis increased from 48 to 53.

TO CONSIDER FOOD STANDARDS

The Joint Committee on Definitions and Standards for foods will hold a meeting in Washington from February 24 to March 3, inclusive, when revisions of the definitions and standards for salt, alimentary paste and sauerkraut will be considered. Consideration will also be given to tentative standards for almond paste, and it is expected that action will be taken on the tentative standard proposed for sweet-cream butter. Other definitions and standards which will be under consideration at this meeting are those for ice cream, jams and jellies, sirups, buttermilk, flour, and sausage.

CROP OUTLOOK SUGGESTS SLIGHT CHANGE

Potato growers are urged by the department in the special crop outlook report to make no further reduction in potato acreage this year. The large crop of last year was due to extraordinary yields per acre and not to excess acreage, and the department believes that an acreage even slightly larger than that of 1924 will be profitable to growers. "Present high prices for sweet potatoes should not influence growers to plant a largely increased acreage of this crop this year," the department says. "Any increase in tobacco acreage this year is undesirable, excepting perhaps in some of the flue-cured types. Higher prices for sugar and sugar beets during the coming season are unlikely, due to the probability of a large carry-over of sugar from last year's crop. A bean crop in 1925 in excess of domestic needs would tend to put the price of the entire crop on an export basis, thus losing to the grower the benefit of the tariff of \$1.05 a bushel. Flax acreage may still be increased somewhat before production with average yields will equal the present consumption demand. Any substantial increase in peanut acreage in 1925 over that of last year may result in lower prices. Present conditions indicate that increased plantings of citrus fruits and western grapes should be discouraged, and that any plantings of apples, peaches, and pears and other tree fruits should be confined to the best commercial sections and to the gradual replacement of old farm orchards in localities where a good local market seems assured. During 1925 there probably will be a sustained or slightly increased demand for such vegetables as lettuce, celery, spinach, and cucumbers, but little

prospect for any increase in the demand for cabbage and onions and for such staple canning crops as corn and tomatoes."

STATISTICS ON FUR FARMING

Statistics on the fur-farming industry in this country are being collected in a systematic effort by the Biological Survey. The bureau desires to keep in touch with and to assist as far as possible the progress of fur farming in the United States, by gathering useful information, and to that end has sent a questionnaire on these subjects to all fur farmers on its lists. Any others who may be in position to supply the information desired may obtain from the Biological Survey a blank form to be filled out.

PUBLICATIONS-PRESS GET-TOGETHER

More than 200 attended a dance and card party of the Office of Publications and the Press Service of the Department of Agriculture at the Washington Club, Friday, February 6. All voted it one of the most successful affairs of the kind ever held in Washington.

Secretary Gore, who was the guest of honor, made a short talk. Others present were directors of work of the department, editorial and publication people of the bureaus, others who have official relations with the publication and press branches, and invited friends.

Methods advocated by extension workers for conducting home-making activities have received approval from an unexpected source. A burglar who recently entered the home of Bertha Henry, home demonstration agent for Okaloosa County, Florida, attached more value to the canned chicken and pepper relish which had been prepared at a home demonstration agents' meeting, apparently, than to the silver, as he took the chicken and left the silver, Miss Henry reports.

Katsuichi Miyawaki, of the Myasaki Agricultural College of Myasaki City, Japan, recently visited the Bureau of Agricultural Economics to get in touch with the work of the bureau. Professor Miyawaki has spent the last year in Switzerland specializing in animal husbandry and is now on his way back to Japan to become professor of animal husbandry at the Myasaki college. His brother, A. Miyawaki, who was a representative to the World's Dairy Congress, is professor of dairying and meat technology at Hokkaido Imperial University, Sapporo, Japan.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

Published every Wednesday at
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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Uniformity in Signs, Notices, Directories, etc.

MEMORANDUM NO. 518.—February 9, 1925.—The administrative regulations of this department are hereby amended by inserting, after paragraph 722, the following:

"723. Wherever practicable, the following general form should be used hereafter in indicating the location of offices and activities of the department in all notices, memoranda, building directories, signs on buildings, doors, windows, etc., and all other places where the work of the department is brought to the attention of the public.

"The 'U. S. Department of Agriculture' should come first in bold letters; the bureau or office represented should come next, in type not larger than the first, and this may be followed by any other necessary or desirable subheading. As a rule the names of officials should not appear. The following are examples:

"U. S. DEPARTMENT OF AGRICULTURE

"WEATHER BUREAU

"U. S. DEPARTMENT OF AGRICULTURE

"FOREST SERVICE

"Northeastern Experiment Station"

Existing signs need not be changed, but in ordering new signs any material deviation from the foregoing specifications which may seem desirable should be submitted with a statement of the reasons therefor, through appropriate channels to the chief clerk of the department for authorization.

Amendment to the Fiscal Regulations

MEMORANDUM NO. 519.—February 10, 1925.—Section (h) of Paragraph 33 of the fiscal regulations of the department is hereby amended to read as follows:

"33. Actual traveling expenses—
"(h) Customary charges for subsistence (except as provided in 33-r) not to exceed \$5 in any one day.

"Subsistence will include the following expenses incurred when absent from official station:

"1. Meals. In the absence of explanation of necessity the following table will govern the allowance of charges for meals taken en route upon departure from or arrival at official station:

"Breakfast when departure is before or arrival is after 8 a. m.

"Dinner when departure is before or arrival is after 1 p. m.

"Supper when departure is before 7 p. m. or arrival is after 6 p. m."

In a decision of the Comptroller General, dated January 27, 1925 (A-5786), it was held that the fixing by administrative regulations of 7 p. m. instead of 6 p. m. with reference to the evening meal on departure is acceptable as the establishment of a reasonable basis for accounting purposes and may be applied in the audit of accounts paid by a disbursing officer after promulgation of said regulation. The above regulation is therefore amended accordingly.

Director Campbell Talks on Enforcement Work

"If everybody knew from experience the heavy toll exacted by the inhibited pests or malpractices, public opinion would become a strong ally in the enforcement of the regulatory measures which is one of the responsibilities with which the department is charged," said W. G. Campbell, director of Regulatory Work, in a discussion of this activity at a conference of extension workers and others of the the department interested, February 4, in the Office of Cooperative Extension Work. "If the cotton boll weevil could be completely cleared from every State," added Mr. Campbell, "public sentiment would give emphatic endorsement of drastic measures to prevent its return because everyone knows what infestation with cotton boll weevil means."

Extension workers can cooperate with other department officials, Mr. Campbell stated, in furthering the department's regulatory work by assisting the people with whom they come in contact to get a clear understanding of the benefits which they are receiving by virtue of these measures, or what is perhaps more enlightening, what the farmer, business man or other citizen would experience were the restrictions removed.

Regulatory work of the department is a logical outgrowth of its research and studies, Mr. Campbell feels, and most of the measures are educational in basic purpose, framed in an effort to establish an understanding and acceptance of standards which have been deemed desirable. This trend is especially notable in the service regulatory work. The major control and service measures and the participation of the various divisions of the department in their functioning were briefly reviewed.

ALEXANDER H. KERR

The people of the department will learn with regret of the death of Alexander H. Kerr, who died at Riverside, Calif., February 9, of pleuropneumonia. He was 62 years old.

Mr. Kerr, whose principal home was at Sandy Springs, Okla., was a manufacturer, and was closely associated with the grocery trade as well as with a number of other businesses. During the war

he gave his service to the department, doing most effective work in calling the attention of commercial and industrial organizations to department publications designed for use in the war emergency. He enlisted aid of organizations of merchants, manufacturers, chamber of commerce, Rotary clubs and like organizations in the distribution of special food leaflets and other publications, and did much to keep the department's activities in this direction properly correlated with the activities of the Food Administration in the same field. He took up this work in December, 1917, and continued until July 15, 1919.

Mr. Kerr succeeded in obtaining most excellent cooperation on the part of various companies. Through his work millions of copies of food leaflets were purchased by many concerns and distributed at their expense to customers throughout the country, saving the Government much money and obtaining effective and quick cooperation with the Government's food saving plans. Mr. Kerr will be affectionately remembered as a substantial supporter of the Department Welfare Association from its beginning. In a letter written to him by Clarence Ousely, the former Assistant Secretary said: "Your zeal, your sacrifice, and your intelligent discharge of the duties you generously assumed at my request have been a distinct contribution to the public service."

In recent letters to friends in the department, Mr. Kerr reiterated his desire to continue in aiding the department's welfare work, and expressed his faith in the great value of the work of the department to the farmer.

REPORT ON PHILADELPHIA MILK SURVEY

Fresh milk and condensed milk are not direct competitors, is the conclusion reached by the department following a survey of consumer demand for milk in Philadelphia. Advertisers should understand the consumption of their particular product within the home. The manufacturer of canned milk must not think that to increase the consumption of his product he must take customers away from fresh milk. Similarly the market for fresh milk is different from that for canned milk and the advertising of the fresh milk distributor should be designed accordingly. Canned milk competes with cream rather than with milk. Many of the users of canned milk were within the poor groups and it is quite possible that if these families were not able to purchase canned milk they would find the regular purchase of cream would amount to more than they could afford in paying for a flavoring to be used in their beverages.

Another Cooperative Bill Introduced in House

Formation of a Federal Cooperative Marketing Board and a Cooperative Marketing Advisory Council, consisting of representatives of cooperative associations, is provided for in a bill (H. R. 12216), which has been introduced in Congress by Representative Dickinson, of Iowa. The purpose of the Federal board would be to encourage and aid in the formation of farmers' cooperative associations, and to promote their efficient operation.

Four persons nominated by the advisory council would be appointed by the President, with the consent and approval of the Senate, to the Federal Cooperative Marketing Board. The Secretary of Agriculture would be ex officio a member of the board. It would be the duty of the board to make surveys of marketing problems for the benefit of cooperative associations and to assist them in installing efficient methods of accounting and auditing. When asked for such help the board would request the Bureau of Agricultural Economics of the United States Department of Agriculture to assign experts to do the necessary work.

It would be the duty of the board to advise and cooperate with the Bureau of Agricultural Economics in ascertaining conditions affecting cooperative marketing and in promoting the establishment of uniform commodity grades. An appropriation of \$500,000 to carry out these projects is proposed.

Representative Beck, of Wisconsin, has introduced a bill (H. R. 12161) "to provide for a national cooperative marketing system." It would establish a national cooperative marketing association without capital stock. Any farmer would be eligible to membership. The corporation would be empowered to buy and sell farm products on a cooperative basis and to own and operate handling facilities. It would be given a loan of \$10,000,000 from the United States Treasury to carry out the purposes of the bill.

Although the new McNary-Haugen bill (S. 4206-H. R. 12127) is similar in principle to the one that was defeated in the last session of Congress, it differs in some important respects. It contains no provision for establishing ratio prices. Instead, it merely directs the proposed farmers' export corporation to purchase farm commodities on which there is a tariff duty when existing surpluses of such commodities make the tariff in any degree inoperative as a means of holding up the price.

Wide discretion in reselling purchased products is given the corporation under the bill. Farmers would be required to pay ratably their share of the expenses of the corporation. This would be arranged by the collection of equalization fees, out of which unexpended balances would be refunded.

The corporation would have a capital stock of \$15,000,000 subscribed by the War Finance Corporation. A clause gives the President power to prohibit importation of agricultural commodities when such importation tends to interfere with the objects of the corporation. Power to discount notes for the corporation would be given to the Federal Intermediate Banks.

The Senate has passed the good roads bill (H. R. 4971) authorizing an appropriation of \$75,000,000 for Federal-aid highways and an appropriation of \$7,500,000 for forest roads and trails for each of the fiscal years 1926 and 1927. Senator Smith, of South Carolina, has introduced a resolution (S. J. Res. 183) establishing a joint congressional commission to make an examination and an audit of cotton statistics of the Bureau of the Census.

DEPARTMENT GRADUATE SCHOOL

The second semester of the department graduate school opened the week February 16, different courses beginning on different days. There are three general courses, eight advanced courses, and special research courses may be taken by arrangement with the committee. Those wishing to take any of the courses must register at the office of the director of Scientific Work.

Tuition for one full-year course or two half-year courses, taken in the same year, will be \$25, of which \$15 is payable at the time of registration and \$10 at the beginning of the second half year. For a half-year course the charge is \$15, payable in advance, and the cost of shorter courses is in proportion.

Credit toward graduate degrees has been allowed for these courses by a number of standard graduate institutions, and many others have signified their willingness to accept them when offered. Those who desire credit toward a degree should file a statement of their educational training and experience.

Field men who are in Washington for only a few weeks will be given the privilege of entering classes for less than the semester period through an arrangement with the teacher and Director Ball, but credit will not be given. The charge to them will be \$1 a week. Those desiring to enter full-year classes in the second semester should consult the teacher.

The general courses are as follows:
Calculus (second half), W. D. Lambert, Tuesday and Friday, at motion-picture laboratory.

Elements of Statistical Methods (year), B. B. Smith, Tuesday and Thursday, at 411 Bieber Building.

Elementary Scientific French (year), Dr. H. B. Humphrey, Monday and Wednesday, at 106 West Wing.

The following advanced courses will be given:

Advanced Statistical Methods (year), H. R. Tolley, Monday and Friday, at 411 Bieber Building.

Value and Distribution (second half), Dr. G. P. Watkins, of the Federal Trade Commission, Tuesday and Thursday, at 305 Crop Estimates.

Genetics (year), Dr. Sewall Wright, Monday and Wednesday, at third floor Entomology Building.

Principles of Nutrition (year—seminar one hour a week), Dr. Paul E. Howe and Dr. Louise Stanley, Thursday, at room 4-225, Building F.

Morphology and Physiology of Insects (year), (second half), Dr. C. H. Richardson, Tuesday and Thursday, at third floor, Entomology Building.

Plant Geography (second half), Dr. H. L. Shantz will complete the course discontinued last year. Monday and Wednesday, at 224 East Wing.

Organic Chemistry (year), Dr. S. F. Acree, Tuesday and Thursday, at 224 East Wing.

Physics of the Air (year), Dr. W. J. Humphreys (in connection with George Washington University).

Special research courses, by arrangement.

All classes will meet at 4.30 p. m.

HEARINGS ON GRADES FOR OATS

Public hearings in connection with a proposed revision of the official grain standards of the United States for oats are to be held at six points throughout the country, beginning February 16. The hearings are to be held so that revised standards may become effective at the beginning of the next crop movement about June 15.

The hearings will be as follows: Seattle, Wash., February 16, 10 a. m., Chamber of Commerce Building; Portland, Oreg., February 17, 2 p. m., Portland Merchants Exchange; Louisville, Ky., February 25, 10 a. m., committee room, Board of Trade Building; Chicago, Ill., February 26, 10 a. m., Fort Dearborn Hotel; Minneapolis, Minn., February 27, 10 a. m., assembly room, Court House; New York City, March 10, 10 a. m., board of managers' room, New York Produce Exchange.

VALUE AND LIMITS OF AGRICULTURAL RESEARCH

(Continued from page 1)

whereby opportunities were given to the rural population to put their sons on new land. But that process is nearly at an end; there are no longer the great vacant areas waiting for men. Are we not, however, to look for progress in another direction. Can we not so intensify the farming of our existing land by taking advantage of science, machinery, and organization, that agriculture production will become an industry capable of competing against other industries for men and capital? It was by a process of this sort, by inclosing the common lands and building up small capitalist businesses, that Britain succeeded a century and a half ago in meeting the needs of a population which was then beginning to expand as the industrial age approached. Our businesses have remained small, too small to be efficient to-day perhaps, and I can point to few examples of large scale industrial farming in successful operation.

Reason for Small Farms

In fact, though I pin my faith to big business on the land as necessary to the future production of food in order to meet the growth of cities, I am bound to say that the current seems sweeping in the other direction. Agricultural businesses such as we have, find it difficult to pay the wages that will retain men on the land, with all its disadvantages of quietness and lack of amusement. Social and economic motives in our country are working towards the break up of farming businesses into single man or rather family farms, and similar forces have been even more powerfully at work in continental countries in dividing up the land. The desire of men for independence and determination to call no man master, the intimate feeling among country folk that a man has a right to a bit of land of his own as he has a right to a vote or to a soul of his own, makes in many countries the single-man holding a burning political question. And the man is ready to pay—to pay in labor, in days that endure from dawn to dark, in days that include the hours of his wife and children, in toil as against the regular pace of a factory, for the privilege of being a landowner.

But I doubt whether the process is fundamentally economic. Farming may become immediately more intensive when a great estate is cut up into small holdings, but the community so created becomes an unprogressive one, little fitted to take advantage of modern science, modern machinery, modern organization. It is fundamentally uneconomic because it is employing more

men than are necessary to produce the food on which the community can be supported. I conceive it to be possible for 15 per cent of the working population to be able to produce the necessary food for the rest of the Nation, and the larger the margin that remains, after this prime task has been performed, of men who can be making boots and clothes, houses, and motor cars, the greater the divisible wealth of the community.

Research Must Be Encouraged

But the only hope I can see at present for large-scale production, for organized industry on the land, lies in the advances that science can make. It is research alone that will enable the big agricultural business to compete with the excessive labor of the one-man farm to pay wages and give conditions of life to its workmen equal to those prevailing in the urban industries. It becomes, then, a matter of the first import to the growth of civilization itself, not merely to agriculture, that agricultural research should be encouraged. * * *

Research leads to efficiency and efficiency is a means of making money. The modern State must cultivate research if it is to become efficient and survive in the world's competition; hence all are agreed now on the endowment of research, and since in farming there are no great business corporations, agricultural research must for many years to come be maintained by the State.

If, then, research is to become of such importance to the State, it behooves us to insure conditions for the research worker under which discoveries are likely to be produced. To do this properly we must understand the psychology of the investigator. If it is true that research, like art, grows by a process of intuition, we can no more organize it into existence than we can organize the output of poetry. Nor are we likely to obtain it by a system of prizes, of rewards commensurate to those obtained in the great professions, in industry or commerce. What we can do is to contrive sheltered places in our community in which research workers can live. We can not guarantee results, but we may wait in faith because as we have said, the impulse to make discoveries is fundamental in man's mind. Now the sheltered places in which the research worker can live are the universities.

The Danger of Efficiency

One last word. The State must have research in order to obtain efficiency, but does mankind really care about efficiency? At bottom man does not, he wants to "loaf and possess his soul." Efficiency

is a beautiful word, but efficiency to what end? If pursued for its own sake it may become a curse. Many people have vivid recollections of the sufferings they endured under a really efficient parent in an efficient household.

I myself am officially engaged in promoting efficiency, in bringing up the efficient farmer and in insuring the efficient use of the land. But I can not help having a great deal of sympathy with the old-fashioned farmer, who is content with what the land brings him, who is making his living but not worrying over much about making money. He is often inefficient, but again he is often a very worthy human being. To take another illustration, I have a vivid recollection years ago of a little piece of swampy meadow, half encircled by a brook which after other wanderings found its way into the Thames. There was a patch of reeds and willows, an old salley garden, where the reed warbler swung her nest and flirted through the tangled herbage. The wet meadow itself was starred over in August by Grass of Parnassus, for it was indeed one of the most southern holds of that flower of the cool northern hillsides. Well, the efficient man came along, saw his opportunity, grubbed up the willows and laid out the meadow in watercress beds. He is a benefactor of his kind and has caused millions of blades of an edible kind to grow where there was none before; but I have a sore spot in my heart for the vanished warblers and the lost Grass of Parnassus. I fear, however, that the pursuit of efficiency is one of those contradictory elements in man's make up that won't let him rest, that is always urging him against his will toward further attainment. What a dreary prospect if it only results in adding an ever greater and greater population to a world always working harder and harder!

Is there any way out of this impasse? I can only again suggest the kindly force of that other element in the texture of men's minds, the passion for artistic expression. The winds of beauty come and go, but as they rustle through the tree of life, among the dropping leaves that are ourselves, men will cease from their toil to listen and pause while they tell of them in their own speech.

Statisticians of the Bureau of Agricultural Economics stationed in the Southern States will meet at Gulfport, Miss., March 24, 25, and 26. The purpose of the meeting will be to discuss statistical methods with special reference to southern and south central crops, to interchange ideas, and to promote esprit de corps.

BRIEF REVIEWS OF NEW BULLETINS

Relative Utilization of Energy in Milk Production and Body Increase of Dairy Cows. By J. August Fries, assistant director, Winfred Waite Brame and Donald C. Cochrane. 1. *Animal Nutrition*, Institute of Agricultural Nutrition of Pennsylvania State College. Pp. 36, fig. 1. December, 1924. (Department Bulletin 1281.) Price, 10 cents.

Milk production in cows takes place normally and principally from the feed, and not by the transformation of body tissues, experiments conducted by the United States Department of Agriculture in cooperation with Pennsylvania State College indicate. The studies aimed to determine the relation between the amount of feed that goes into milk production and the amount that goes into tissues.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 51, No. 9. December. Abstract Number. January, 1925. Pp. S01-900. Price, 10 cents.

Note.—The Record is a technical review of the world's scientific literature pertaining to agriculture. It is not intended for general distribution, and its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. It can not be sent free to individuals having no official connection with public institutions. The Superintendent of Documents will receive subscriptions for this publication, which is issued in two volumes a year, 10 numbers each, at 75 cents a volume. Foreign subscriptions, \$1.25 a volume.

Journal of Agricultural Research. Vol. 29, No. 1, July 1, 1924. Contents: Segregation and Correlated Inheritance in Crosses between Kota and Hard Federation Wheats for Rust and Drought Resistance. (G-399.) By J. Allen Clark.—Egg and First-Stage Larva of *Tarsostenus univittatus* (Rossi), a Beetle Predacious on Powder-Post Beetles. (K-137.) By R. A. St. George.—Pythium Rootlet Rot of Sweet Potatoes. (G-424.) By L. L. Harter. Pp. 1-55, figs. 9, pls. 4. Price, 10 cents.

Vol. 29, No. 2, July 15, 1924. Contents: Bacterial Pustule of Soybean. (N. C-18.) By Frederick A. Wolf.—The Chemical Examination of Various Peat Materials by Means of Foodstuff Analyses. (G-423.) By A. P. Dachnowski.—Botrytis Rot of the Globe Artichoke. (K-141.) By George K. Link, Glen E. Ramsey, and Alice A. Bailey.—The Depth Distribution of the Root-Knot Nematode, *Heterodera radicola*, in Florida Soils. (G-446.) By G. H. Godfrey. Pp. 57-98, figs. 9, pls. 4. Price, 10 cents.

Vol. 29, No. 3, August 1, 1924. Contents: Freezing Injury of Apples. (G-383.) By H. C. Diehl and R. C. Wright.—Oiled Paper and Other Oiled Materials in the Control of Scald on Barrel Apples. (G-412.) By C. S. Brooks and J. S. Cooley.—The Greenhouse Leaf-Typhlocyba rubiginosa (Guené). (K-149.) By C. A. Weigel, B. M. Broadbent, August Busck, and Carl Heinrich. Pp. 99-158, figs. 15, pls. 7. Price, 10 cents.

Vol. 29, No. 4, August 15, 1924. Contents: A Leaf and Corn Disease of Gladioli Caused by *Bacterium marginatum*. (G-447.) By Lucia McCulloch.—New Termites and Hitherto Unknown Castes from the Canal Zone, Panama. (K-139.) By Thos. E. Snyder.—The Shape and Weight of Eggs in relation to the Sex of Chick in the Domestic Fowl. (A-76.) By M. A. Jull and J. P. Quinn.—The Growing Season of Western Yellow Pine. (F-20.) By G. A. Pearson.—The Digestibility of Tepary Beans. (T-1.) By Harry J. Buel. Pp. 159-208, figs. 12, pls. 7. Price, 10 cents.

Vol. 29, No. 5, September 1, 1924. Contents: Stripe Rust (*Puccinia glumarum*) of Cereals and Grasses in the United States. (G-493.) By H. B. Humphrey, C. W. Hunzinger, and A. G. Johnson.—A Study of Bacterial Pustule of Soybean and a Comparison of Bact. phaseoli sojense Hedges with Bact. phaseoli EFS. (G-44.) By Florence Hedges.—Vitamin A Content of Fresh Eggs. (E-31.) By Joseph C. Murphy and D. Breese Jones.—Some Insecti-

cidal Properties of the Fatty Acid Series. (K-138.) By E. H. Siegler and C. H. Popenoe. Pp. 209-261, figs. 8, pls. 9. Price, 1 cent.

Vol. 29, No. 6, September 15, 1924. Contents: Infection of Barley by *Ustilago nuda* through Seed Inoculation. (G-430.) By W. H. Tisdale and V. F. Tapke.—The Effect of Feeding Thyroid on the Plumage of the Fowl. (Wis-26.) By L. J. Cole and D. H. Reid.—*Xyliscus modestus* Gahan, a Minor Parasite of the Hessian Fly. (K-146.) By P. R. Myers.—Longevity and Fecundity of *Bruchus quadrimaculatus* Fab. as Influenced by Different Foods. (K-145.) By A. O. Larson and C. K. Fisher.—A Dominant Lethal Chlorophyll Mutation in Maize. (G-409.) By J. H. Kempton.—The Rate of Growth of Green and Albino Maize Seedlings. (G-428.) By J. H. Kempton. Pp. 263-312, figs. 3, pls. 10. Price, 10 cents.

Vol. 29, No. 7, October 1, 1924. Contents: Critical Tests of Miscellaneous Anthelmintics. (A-84.) By Maurice C. Hall and Jacob E. Shillinger.—Studies on the Inheritance of Carleaves in Wheat. (G-437.) By Victor J. Florell.—The Vitality of Buried Seeds. (G-466.) By W. L. Goss. Pp. 313-362, figs. 5, pls. 2. Price, 10 cents.

Vol. 29, No. 8, October 15, 1924. Contents: Postnatal Growth of the Body, System and Organs of the Single-Comb White Leghorn Chicken. (Min-52.) By Homer B. Latimer.—*Geranium Stenotri* Caused by *Pythium completeus* N. Sp. Host Resistance Reactions: Significance of Pythium Type of Sporangial Germination. (G-465.) By Harry Braun. Pp. 363-419, figs. 34, pls. 5. Price, 10 cents.

Vol. 29, No. 9, November 1, 1924. Contents: Alternaria Leafspot and Brownrot of Cauliflower. (G-412.) By J. L. Welmer.—The Dustfall of February, 1923. (Wis-27.) By Alexander N. Winchell and Eric R. Miller.—Preparasitic Stages in the Life History of the Cattle Hookworm (*Bustomium phlebotomum*) (A-80). By Benjamin Schwartz.—A Mycorrhizal Fungus in the Root of Legumes and Some Other Plants. (G-452.) By Fred Reuel Jones. Pp. 421-470, figs. 14, pls. 6. Price, 10 cents.

Note.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free of charge to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 52, No. 11. November, 1924. Contents: An analysis of a retrograde depression in the eastern United States of America. By J. Bjerknes and M. A. Gillebt.—Meetings of the meteorological section of the International Geodetic and Geophysical Union, Second General Assembly, Madrid, Spain, October 1-8, 1924. By H. H. Kimball.—Forty years' study of snow crystals. By W. A. Bentley.—Note on certain cloud forms observed at Tucson, Ariz., August 18, 1924. By A. E. Douglass.—Variation in solar radiation intensities measured at the surface of the earth. By H. H. Kimball.—An Approach to runoff expectancy. By S. L. Moyer.—Comparison of rain gauge and the Horton snowboard measurements of snowfall at Grand Forks, N. Dak. By A. W. Cook.—Twilight phenomena on Mount Blanc. By E. Bauer, A. Danjon, and J. Langevin. Pp. 521-561, pls. 4, figs. 11, charts 13. Price, 15 cents a copy, \$1.50 a year.

Note.—The Monthly Weather Review is sent free to cooperating meteorological services, universities, and institutions of learning which offer courses of instruction in meteorology, and to a limited number of individuals and students interested in the science of meteorology who make ap-

plication for the Review, addressed to the chief of the U. S. Weather Bureau and showing sufficient reasons why they should receive copies free of cost.

Service and Regulatory Announcements. Bureau of Chemistry Supplement 182. Notices of Judgment. 12551-12600. Pp. 309-333. January 31, 1925. Price, 5 cents.

Soil Survey of Alcorn County, Mississippi. By E. Malcolm Jones, and E. F. Lowe, of the Mississippi Geological Survey. Pp. 33, fig. 1, pls. 2, map. (From F. O. Soils, 1921.) Price, 20 cents.

Soil Survey of the San Simon Area, Arizona. By E. J. Carpenter, of the U. S. Department of Agriculture, and V. S. Bransford, of the University of Arizona Department of Irrigation. Pp. 40, fig. 1, pls. 3, map. (From F. O. Soils, 1921.) Price, — cents.

EXPERIMENT STATION PUBLICATIONS

The office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of February 2-7, 1925. Copies of these publications may be obtained from the stations issuing them.

Celery diseases in Florida. A. C. Foster and G. F. Weber. (Florida Sta. Bul. 173, pp. 21-78, figs. 34.)
Observations on the clear-winged grasshopper (*Cannula pellucida* Scudder). J. R. Parker. (Minnesota Sta. Bul. 214, pp. 44, figs. 6, July, 1924.)

Raising the dairy calf when whole milk is sold. C. H. Eckles and T. W. Gullicksen. (Minnesota Sta. Bul. 215, pp. 30, figs. 14, June, 1924.)

Farm drainage methods.—Survey and design, 1908-1922. H. E. Roe. (Minnesota Sta. Bul. 216, pp. 71, figs. 23, June, 1924.)

Farm drainage methods.—construction, 1908-1922. H. E. Roe. (Minnesota Sta. Bul. 217, pp. 44, figs. 52, June, 1924.)

The influence of animal and vegetable proteins on egg production. H. L. Kempster. (Missouri Sta. Bul. 225, pp. 16, figs. 6, Nov., 1924.)

Production and feeding of silage. L. J. Stadler, M. M. Jones, C. W. Turner, and P. M. Bernard. (Missouri Sta. Bul. 226, pp. 23, figs. 9, Dec., 1924.)

Missouri flour for Missouri breadmaking. L. E. Davis. (Missouri Sta. Bul. 227, pp. 31, figs. 28, Dec., 1924.)

Effect of several ingredients used in the manufacture of commercial ice cream on the change in temperature during the freezing process. W. H. E. Feld and D. H. Nelson. (Missouri Sta. Research Bul. 71, pp. 16, figs. 8, Nov., 1924.)

Changes produced in apple trees by various types of pruning. H. D. Hooker, jr. (Missouri Sta. Research Bul. 72, pp. 11, fig. 1, Nov., 1924.)

Growing orchard grass in south Missouri. C. A. Helm. (Missouri Sta. Circ. 130, pp. 8, figs. 5, Nov., 1924.)

Egg production, monthly costs and receipts on New Jersey poultry farms. W. H. Allen. (New Jersey Sta. Hints to Poultrymen, vol. 13, No. 4, pp. 4, Jan., 1925.)

Comparative influences of various protein feeds on laying hens. R. M. Sherwood. (Texas Sta. Bul. 317, pp. 24, Feb., 1924.)

Biennial report of the Director for the years 1923 and 1924. W. Peterson. (Utah Sta. Bul. 192, pp. 64, fig. 1, Jan., 1925.)

Studies on the effects of air temperature and relative humidity on the transpiration of *Pinus strobus*. E. J. Dole. (Vermont Sta. Bul. 238, pp. 39, pls. 2, figs. 10, July, 1924.)

Some natural violet hybrids of North America. E. Brainerd and G. P. Burns. (Vermont Sta. Bul. 239, pp. 205, figs. 83, July, 1924.)

Commercial fertilizers. J. L. Hills. (C. H. Jones, and G. F. Anderson. (Vermont Sta. Bul. 240, pp. 24, Aug., 1924.)

Agricultural seed inspection. A. S. Lutman. (Vermont Sta. Bul. 241, pp. 7, Oct., 1924.)

Commercial feeding stuffs. J. L. Hills. (C. H. Jones, and G. F. Anderson. (Vermont Sta. Bul. 242, pp. 32, Oct., 1924.)

How to prune the young cherry tree. R. H. Roberts. (Wisconsin Sta. Bul. 370, pp. 16, figs. 14, Oct., 1924.)

The conference of farm management demonstrators in the North Central States to discuss farm management problems and their relation to extension work will be held May 4 and 5 at Sioux City, Iowa.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURAL HISTORY

Doniol, Henri. Histoire des classes rurales, en France et de leurs progrès dans l'égalité civile et la propriété. 2. éd. Paris, 1865.
Monteil, A. A. Histoire agricole de la France. Paris [18-]

DOMESTIC ANIMALS

Carter, W. G. H. The horses of the world. Washington, National geographic society, 1923.
Leisering, A. G. T. Atlas of the anatomy of the horse and of the other domestic animals. 2 v. Chicago, A. Eger, 1906-7.
Robinson, J. H. Popular breeds of domestic poultry, American and foreign. Dayton, O., Reliable poultry journal publishing company, 1924.

FARM MACHINERY

Osten, Hermann. Elektrofütter. Charlotten-burg, R. O. Mittelbach, 1923.
Rau, K. H. Geschichte des pfluges. Heidelberg, 1845.

USEFUL PLANTS

Food research institute, Leland Stanford junior university. Wheat studies, v. 1, no. 1; Dec. 1924. Stanford University, 1924.
Schilling, Ernst. Die faserstoffe des pflanzen-reiches. Leipzig, S. Hirzel, 1924.

FORESTRY

International institute of agriculture, Rome. Bureau of statistics. Les forêts. Renseignements statistiques concernant différents pays. Rome, 1924.
Pearson, C. H., & son, hardwood co., inc. Tropical woods. New York, 1924.

CHEMISTRY AND PHYSICS

Lodge, Sir O. J. Atoms and rays. London, E. Benn, 1924.
Schott, S. P. Synthetische organic compounds. London, E. Benn, 1925.

ENGINEERING

Municipal index, 1924. New York, American city magazine, 1924.
Prescott, John. Applied elasticity. London, Longmans, Green, 1924.
Society of American military engineers. Year-book 1925. Washington, 1924.

GENETICS

Bibliographia genetica. Onder redactie van Dr. J. P. Lötzy en Dr. H. N. Koolman. deel 1. 's-Gravenhage, M. Nijhoff, 1925.

MEDICINE AND BACTERIOLOGY

Buchanan, R. E. General systematic bacteriology. Baltimore, Williams & Wilkins, 1925. (Society of American bacteriologists. Monographs on systematic bacteriology. v. 1.)
Gurd, F. B. Infection, immunity and inflammation. St. Louis, C. V. Mosby, 1924.
Howard, W. T. Public health administration and the natural history of disease in Baltimore, Maryland, 1797-1920. Washington, 1924. (Carnegie institution of Washington. Publication no. 351.)
Osborne, O. T. The principles of therapeutics. Philadelphia, Saunders, 1922.

BOTANY

Clements, F. E., and Weaver, J. E. Experimental vegetation. Washington, 1924. (Carnegie institution of Washington. Publication no. 355.)
Clements, F. E., and Goldsmith, G. W. The phytometer method in ecology. Washington, 1924. (Carnegie institution of Washington. Publication no. 356.)
Löw, Immanuel. Die flora der Juden. v. 2. Wien, R. Löwit, 1924.

Old books

Herr, August. Kurze anleitung zur botanik. Giessen, 1827.
Lemery, Nicolas. Traité universel des drogues simples. Paris, 1698.
Lindley, John. An introduction to the natural system of botany. London, 1830.
Lindley, John. Medical and oeconomical botany. London, 1849.

Lochner, M. F. Nerivm sive Rhodopaphne verivm et recentiorvm. Norimbergae, 1716.
Loiseleur-Deslongchamps, J. L. A. Manuel des plantes usuelles indigènes. Paris, 1819.
Nylandt, Petrus. De Nederlandtse herbarius. Amsterdam, 1832.
Porta, G. B. Phytognomonica. Rothomagi, 1650.
Wagner, Hermann. Malerische botanik. 2. auf. Leipzig, 1872.
Wood, Alphonso. First lessons in botany. Boston, 1851.

ECONOMICS AND STATISTICS

Bastable, C. F. The theory of international trade with some of its applications to economic policy. London, Macmillan, 1903.
Drummond, W. J. Financing of land purchases in Canada. Toronto, 1924. Thesis. Typewritten.
Institut international de statistique. Aperçu annuel de la démographie des divers pays du monde. année 1. La Haye, 1923.
Mangold, G. B. The function of agricultural banks in the United States. Chicago, 1903. Thesis.
National industrial conference board. Tax burdens and public expenditures. New York, 1925.
Wilson, A. W. G. Development of chemical, metallurgical, and allied industries in Canada in relation to the mineral industry. Ottawa, 1924. (Canada. Dept. of mines. Mines branch. Publication 597.)
Wolman, Leo. The growth of American trade-unions 1880-1923. New York, National bureau of economic research, 1924.

HISTORY

California. Historical survey commission. California county boundaries. Berkeley, 1923.
Rees, William. South Wales and the March 114-1415. A social and agrarian study. London, H. Milford, 1924. Thesis.

PERIODICALS CURRENTLY RECEIVED

Animals (monthly) v. 2, no. 19- Dec., 1924- London.
Handelsblad voor den tuinbouw (weekly) jaarg. 1, no. 1 Jan. 2, 1925- Assen.
Potato exchange news, v. 1, no. 2- Dec. 5, 1923- Idaho Falls.
Southwestern political and social science quarterly, v. 4, no. 1- June, 1923- Austin, Tex.

LOST BOOKS

The following books belonging to the library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:
Istituto cryptogamico Horti botanici petropolitani. Notulae systematicae. v. v 1-2. 1922-23.
U. S. Bureau of standards. Technologic papers. no. 38-53.

APPROPRIATION ACT

PROVIDES \$124,000

(Continued from page 2)

Bureau of Biological Survey:	
Maintenance of mammal and bird reservations (construction of highway through Sully's Hill National Park)	\$12, 000
Enforcement of migratory-bird treaty act (warden service)	5, 000
Bureau of Public Roads:	
Rural engineering (investigation of methods for distributing concentrated fertilizer)	10, 000
Bureau of Agricultural Economics:	
Market news service on livestock	10, 000
Administration of warehouse act	8, 000
Bureau of Home Economics:	
General expenses	10, 220
Insecticide and Fungicide Board:	
Enforcement of insecticide act	20, 000
Federal Horticultural Board:	
Enforcement of plant quarantine act (port inspection service)	17, 866

Packers and Stockyards Administration:

Enforcement of packers and stockyards act	\$4, 320
Collection of Seed Grain Loans	4, 685
Total increase, regular work	1, 028, 868

Decreases

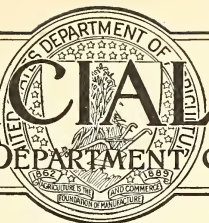
Office of the Secretary:	\$4, 000
Salaries	
Mechanical shops and power plant	10, 000
Miscellaneous expenses	12, 000
Office of Editorial and Distribution Work:	
Salaries	7, 580
General expenses	1, 720
Office of Experiment Stations:	
Hawaii station	2, 700
Porto Rico station	400
Guam station (coconut scale)	5, 000
Virgin Islands station	2, 500
Extension Service:	
Salaries	5, 601
Agricultural exhibits	2, 395
Administrative expenses	1, 860
Weather Bureau:	
Salaries	5, 843
Printing office	1, 720
Field station expenses	2, 500
Travel expenses	500
Bureau of Animal Industry:	
Salaries	8, 524
Inspection and quarantine work	35, 960
Tick eradication	17, 623
Hog cholera eradication, and control of viruses, etc.	17, 050
Dourine eradication	2, 000
Administrative expenses	3, 860
Meat inspection	8, 310
Livestock production in cane-sugar and cotton districts	1, 000
Bureau of Dairying:	
Salaries	1, 565
Bureau of Plant Industry:	
Salaries	18, 249
Citrus canker eradication	9, 850
Bacteriology and nutrition	755
Barberry eradication	36, 815
Nut culture	500
Biophysical investigations	72
Administrative expenses	1, 260
Bureau of Chemistry:	
Salaries	5, 052
Color investigations	1, 000
Sirup and sugar investigations	370
Insecticide and fungicide investigations	1, 860
Bureau of Soils:	
Salaries	1, 740
Bureau of Entomology:	
Salaries	6, 690
Bureau of Biological Survey:	
Salaries	3, 312
Administrative expenses	460
Library:	
Salaries	1, 320
General expenses	1, 460
Bureau of Public Roads:	
Salaries	6, 982
Road management investigations	4, 500
Road building and maintenance investigations	5, 749
Bureau of Agricultural Economics:	
Salaries	13, 407
Administrative expenses	1, 320
Farm management and practice investigations	15, 174
Market inspection of perishable foods	5, 885
Operation of Center Market	2, 900
Federal Horticultural Board:	
Eradication of pink bollworm of cotton	101, 670
Total decreases, regular work	408, 423

CIVIL SERVICE ANNOUNCEMENT

Guard, \$1,020, March 11, 1925. Vacancies in the departmental service, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,260 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., FEBRUARY 25, 1925

No. 8

JARDINE TO BECOME HEAD OF DEPARTMENT

President's Appointment Confirmed by Senate—Agricultural Experience Wide

Dr. William Marion Jardine, president of the Kansas State Agricultural College, was appointed Secretary of Agriculture by President Coolidge on February 14, and takes office March 4, succeeding Secretary Howard M. Gore, who becomes Governor of West Virginia. The appointment of the new Secretary was confirmed by the Senate February 18.

Doctor Jardine, who is a member of the President's agricultural conference, which recently reported its findings and suggestions regarding the needs of the farming industry, was selected from a large number of men from nearly all sections of the country.

The parents of William M. Jardine of Scotch-Welsh ancestry, were pioneer farmers in the Malad Valley of Idaho, where he was born January 16, 1879. His father, William Jardine, came to this country at the age of 16, going at once to the West, where for some time he worked on the Union Pacific Railroad. His mother, Rebecca Jardine, was born at Willard, Utah, and is now living at the family home at Idaho Falls. Of the seven children, four girls and three boys, all but one girl are living, and are engaged in agriculture or work closely related to it.

Spends Lifetime in Agriculture

When he was still very young he went from Idaho to the Big Hole Basin of

Montana, and here on a cattle ranch he got his first actual experience with agriculture. His interest in crops and livestock was such that he decided to make their study and production his life work. Much of his boyhood was spent working on his father's farm, but through the long winters he found time to study and to do much thinking concerning his future work. At 19 he was "punching cows" and making hay in the Big Hole Basin. Later he spent a summer working on a dairy farm, a place hardly

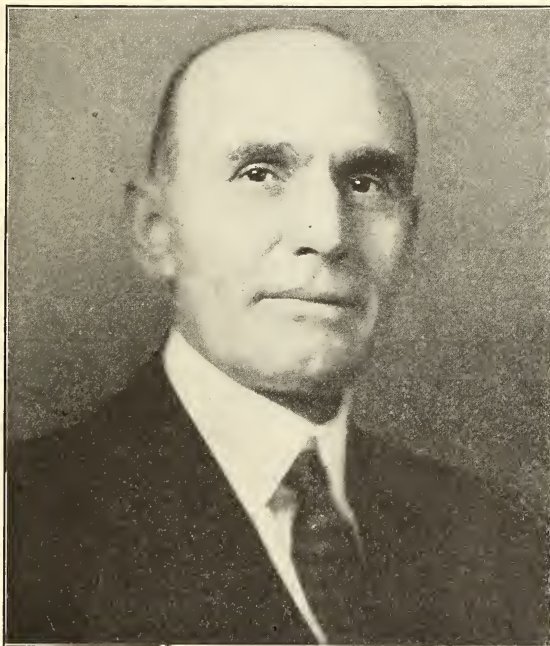
ADDITIONAL LAND AT BELTSVILLE APPROVED

New Cooperative Bill Introduced in House—Carries Approval of Conference

Authority to expend \$13,100 out of the 1925 appropriation for the Bureau of Dairying, for the purchase of 129 acres at Beltsville, Md., adjoining the department's experimental farm, is given to the department in a draft of proposed legislation which has been transmitted to Congress by the President. Other proposed legislation transmitted to Congress by the President would make available on January 1 the appropriation provided by the agricultural act of 1926 for the protection of land fur-bearing animals in Alaska. A supplemental estimate of an appropriation of \$31,000, for the investigation of mosaic diseases of sugar cane, has also been sent to Congress by the President.

Another bill proposing to create a Federal cooperative marketing board has been introduced in Congress. Representative Haugen, of Iowa, is the author. This measure carries the approval of the President's agricultural conference. The bill would create a board consisting of the Secretary of Agriculture and five members appointed by the President by and with the advice and consent of the Senate. Each appointed member would be paid a salary of \$10,000 a year. An appropriation of \$500,000 is carried in the bill for administration expenses of the board.

Voluntary registration of cooperative associations as members of the Federal



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WILLIAM M. JARDINE

looked upon as respectable by the average "cow puncher."

Following his selected course, he entered the Agricultural College of Utah at Logan at the age of 21 and was graduated in 1904. He paid part of his way through college by teaching in near-by graded schools and toward the

(Continued on page 8)

cooperative marketing system is provided for in the measure. Registered associations would be required to submit their accounts to periodical audit, to submit disputes regarding grades and standards to Federal arbitration, and to abide by the board's regulations. Formation of clearing-house associations and terminal-market associations would be permitted, and authority is given for associations to pool their marketing operations.

Representative Rankin, of Missouri, has introduced a resolution (H. J. Res. 439) providing for an inquiry by the Federal Trade Commission into the trade in cottonseed and cottonseed products to determine whether the prices of those products have been depressed by actions in violation of the antitrust laws. The resolution declares that the prices of cottonseed have been for some time at an abnormally low level, with the result that producers have suffered heavy losses. It is noted that there is no general quoted market price for cottonseed and that prices in different localities vary widely. It has been alleged that these conditions are the result of an illegal combination among the chief buyers of cottonseed.

A resolution (S. J. Res. 183) introduced by Senator Smith, of South Carolina, provides for a joint congressional commission to make an examination and an audit of cotton statistics in the Bureau of the Census, to show the carry-over, the production, the consumption, and distribution of cotton, and the amount now on hand.

Would Honor Doctor Howard

Representative Temple, of Pennsylvania, has introduced a bill (H. R. 12257) authorizing Dr. L. O. Howard, chief of the Bureau of Entomology, to accept the cross of officer of agricultural merit and the decoration of chevalier of the National Order of the Legion of Honor, which have been tendered him by the French Government in recognition of his services to world agriculture and his contributions to medical entomology.

A resolution (H. J. Res. 350) has been introduced by Representative Lowrey, of Mississippi, making an additional appropriation for the Department of Agriculture to be spent for the arrest and eradication of anthrax.

Funds for Forest Roads

Authority for the Secretary of Agriculture to apportion to the States \$7,500,000 authorized to be appropriated for the fiscal year 1926 for the construction of forest roads and trails is contained in an amendment offered by Senator McNary, of Oregon, to the forthcoming deficiency appropriation bill. The amendment would

authorize the Secretary of Agriculture to make arrangements with the States for the expenditure of this money.

The President has approved a bill (H. R. 8308) authorizing the Coast and Geodetic Survey to take over from the Weather Bureau the work of making seismological investigations. He has also approved bills appropriating \$75,000,000 for Federal-aid highways and \$7,500,000 for forest roads and trails for each of the fiscal years 1926 and 1927.

A bill (S. 4156) authorizing the establishment of a forest experiment station in California and the surrounding States has been favorably reported from the Senate Committee on Agriculture and Forestry.

L. M. Estabrook to Direct World Agricultural Census

Leon M. Estabrook, of the Bureau of Agricultural Economics, has been appointed by the International Institute of Agriculture at Rome as director of the World Census of Agriculture to be made by the institute in 1930. He will sail in the early spring to Rome, where he will begin the necessary preliminary work.

This census will be the first effort ever made to inventory the world's agriculture, and is following out the dream of the founder of the international institute. It was David Lubin's idea that the institute should not only serve as a clearing house for such statistics relating to agriculture as might be supplied by the adhering governments, but that the institute should take the lead in promoting better and more dependable statistics throughout the world. Those in charge of the statistical work have realized more each year that serving as a clearing house for statistics is not enough if the statistics of the adhering governments are not satisfactory in themselves. One of the difficulties in summarizing world statistics for the great staple crops in which all countries are interested is that many countries have not realized the importance of taking a periodical inventory of their agricultural resources similar to the decennial census taken in many other countries, such as the British Empire and the United States. A further difficulty is encountered by the use of different methods in different countries and by the fact that the statistics of one country are not comparable with those of another.

The directorship of the World Census of Agriculture is regarded as a great honor and recognition of the effective work done for agriculture by Mr. Estabrook.

Deer Starve to Death in Alaska When Heavy Snow Covers Food

Great numbers of the Sitka deer which inhabit the islands of southeastern Alaska and the adjacent mainland are reported to be dying of starvation because of their inability to get at their regular supply of food, now covered by the recent unusually heavy snows, according to the Biological Survey.

These deer are important game animals and have been protected by law over a period of years. The winters since that of 1917-18 have been mild and the deer quite abundant. The present winter, however, has been marked by one of the heaviest snowfalls on record. From a depth of 2 and 3 feet at the outer ocean coast, the snow stands about 15 feet deep farther inland. Under these conditions the deer can not obtain their usual food, and have been forced to the beaches, where they are endeavoring to subsist on seaweed exposed at low tide.

Urgent requests have been received from the game wardens and various organizations in Sitka, Juneau, and Wrangell for aid to purchase hay and to secure the services of men to cut down trees to supply the starving deer with food. Sixteen volunteers from Sitka are reported to be already felling trees for that purpose, but the shore line where the deer occur is so extensive that much greater efforts must be made to avoid a great calamity. One telegram reports that 160 carcasses of deer dead from starvation were found in a single locality.

No Federal funds were available for this relief work. In view of this the chief of the Biological Survey laid the situation before a number of organizations interested in the conservation of our wild life and met with a hearty response. The national organizations which supplied the funds needed to provide hay and other forage for the deer are the American Humane Association, of Albany, and the National Association of Audubon Societies, the Camp-Fire Club of America, and American Game Protective Association, all of New York City.

The present situation is an emergency problem due to the extraordinarily heavy snowfall which prevents access for the deer to the food supply which exists abundantly on the wooded slopes of the islands. The available funds will enable the United States game wardens and others to supply food in many places and thus insure that the extermination of the deer will not take place in many localities.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department During
the Past Week

CONFIRM RUSSIAN GRAIN SHORTAGE

Department officials have confirmed press dispatches to the effect that Russia is suffering from a shortage of bread grains and will have to import considerable quantities of wheat. Large purchases of wheat and flour on Russian account in both England and the United States have already been reported.

SOUTH AMERICAN GRAIN CROPS SHORT

General reductions in grain crops in southern South America, with the exception of Uruguayan flax, are reported in cables received by the department from the International Institute of Agriculture at Rome. The aggregate wheat production for Argentina, Chile, and Uruguay for 1924-25 is estimated at 224,000,000 bushels, as compared with 288,000,000 bushels last year, a decrease of 22 per cent.

ITALIAN WHEAT AREA INCREASED

The area sown to wheat in Italy for the 1925 harvest is estimated to be 11,664,000 acres, the largest in the last four years, according to a cable from the International Institute of Agriculture to the department. The final report of wheat acreage last year is 11,281,000 acres, the preceding year 11,554,000 acres, and for the 1921 harvest 11,489,000 acres. Practically the total wheat crop of Italy is fall sown.

SHORT BUSHEL BASKETS BEING USED

Use of short measures of round-stave bushel baskets in the Eastern Shore districts of Maryland and Virginia has recently been brought to the attention of officials of the department. Apparently many growers think that if they use short baskets the manufacturer and not the grower or shipper is responsible. This is not the case, unless the grower or shipper can produce a guaranty signed by the manufacturer or dealer.

ODORS CONTAMINATE MARKET POULTRY

Because of the appearance of European fowl pest in certain parts of the country, farmers throughout the East and Middle West through fear of this disease have been doing much more disinfecting than usual. As a result of the widespread use of cheap coal-tar

products with a strong carbolic-acid odor for this purpose, large quantities of poultry contaminated with the odor have been received at some of the big markets. The Bureau of Animal Industry of the department has received complaints from handlers of market poultry who have suffered heavy losses because of the unsalability of tainted fowl, one large firm reporting a loss of \$10,000 on four cars.

AMERICAN MEATS FOR FRANCE

France since the war has become an important world market for meats, and in many ways offers a good outlet for American products, declares Robert F. R. Martin, United States Department of Agriculture representative who has just returned from a study of meat-marketing methods in France. "The United States already supplies France with most of its imported pork products, including bacon, hams, and sausage, and there are possibilities of increasing these exports," Mr. Martin says. "The by-products field in France is also of interest. Fats and sausage casings especially are in demand. The French demand for offals of all sorts is increasing, and since the French do not save all of these in their own abattoirs there is increased opportunity for imports."

FOWL-PEST POSTER ISSUED

Protection of poultry against possible outbreaks of European fowl pest, a destructive contagious disease recently found in parts of this country, is the subject of an illustrated two-color poster just issued by the department. Pictures show characteristic appearance of chickens and turkeys affected with the disease. Those wishing to display this poster may obtain copies free by addressing the Department of Agriculture, Washington, D. C.

RECENT TYPHOID OUTBREAK DISCUSSED

The Nyusda Club held its February meeting with luncheon at the Pig and Whistle Inn on February 11, 1925. The meeting was addressed by Hugh W. Taylor, director of the Division of Food and Drugs Inspection of New York City, who gave an interesting talk on the activities of his office, and also told of developments in the investigation of the recent typhoid outbreak, especially with regard to oysters. Mr. Taylor spoke of the co-operative work carried on in the past with several of the bureaus represented at the meetings, and offered to extend his cooperation to any of the Federal bureaus at any time when they might need the assistance of his department.

B. F. McCarthy, president, announced that through the efforts of the committee on information Dr. H. B. Shaw, of the Federal Horticultural Board, had given an address, Our Defense Against Invasion by Plant Enemies, which was broadcast by station WJY on the evening of February 5, 1925, and that Dr. Albert Long, of the Bureau of Animal Industry, would talk on What Federal meat inspection means to the American public, on February 21, 1925, at 9 p. m. from station WJZ, New York. Dr. H. B. Shaw, chairman of the committee on information, is arranging for three more talks by other members of the club from WJZ during the month of March.

BOYS' AND GIRLS' CLUBS ABROAD

Farm boys' and girls' clubs in foreign countries are making definite progress, according to a review of extension activities in these countries recently issued by the Office of Cooperative Extension Work as a mimeographed circular entitled "Foreign Agricultural Extension Activities."

The young farmers' clubs of England, whose growth to a membership of 600 is discussed, are already familiar to many in this country through the international dairy cattle judging contests. Yugoslavia now has some 200 clubs from the first organization made in 1920 as the result of an address on the American system of extension work by an official of the ministry of agriculture who had studied the work in this country.

French club girls experienced what seems to have been their first club encampment and school, the circular states, in 1924. Canadian Women's Institute girls' clubs the review finds somewhat similar to the girls' clubs of the United States. Provision was made by Italian legislation in 1924 for short courses in theoretical and practical farming matters for Italian farmers' sons in every community, according to the circular.

Progress of agricultural and home-economics extension work in Brazil, Canada, England, France, India, Italy, Yugoslavia, Mexico, Portugal, and Spain as reported in their publications are reviewed in the circular.

A recent letter from one of the largest wholesale dealers in seed soy beans to the board of trade of a large terminal market contains the following: "We are very much in favor of the Government establishing grades, as we believe it would be a great help to all handlers of soy beans. It would safeguard both the shipper and the buyer and would do away with the necessity on good merchantable beans of having to sell by sample."



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DEPARTMENT WORKERS LEAD AGAIN

Announcement has just been made of the organization of a Federal business association at Los Angeles, Calif. Reporting this in a letter to the chief coordinator at Washington, the coordinator of the ninth area stated that the formation of this club was considered a signal victory due to the fact that previous endeavors along this line had met with no success. He credits the final result largely to the efforts of H. B. Hersey, Weather Bureau, and C. H. Beauchamp, Packers and Stockyards Administration.

Secretary Gore sent letters to both of these department workers, thanking them for their action in promoting the coordination of Government business. He wrote, in part:

"* * * Your action in this instance is altogether in harmony with the policy of this department, which, as you know, is to cooperate in such matters to the fullest extent, and in transmitting to you the thanks of the chief coordinator, I wish also to express the appreciation of the Department of Agriculture and my own satisfaction in learning of the leadership of representatives of the department in organizing this association of Federal Government agencies in Los Angeles."

WOMEN'S COUNCIL GIVES LUNCHEON

The Women's Council of the Bureau of Agricultural Economics gave a luncheon February 18 at the City Club for the women of its bureau and, judging by the number in attendance, it was a most successful affair. There were 340 women present, and the guests were Dr. H. C. Taylor, chief of the bureau, Mrs. Taylor, and Mrs. Lloyd S. Tenny. Mrs. Tenny was unable to attend owing to a previous engagement.

The luncheon was the initial social function sponsored by the council. This

council, which consists of a woman representative of each division, was recently organized at the suggestion of Doctor Taylor to forward the interests of the women employees, especially of new workers coming into the bureau.

Miss Emily E. Clark, chairman of the council, presided and introduced Doctor Taylor, who pointed out briefly the purposes of the bureau in order that the workers might have a clearer conception of what they as a whole are striving to do. He cited examples of how each unit fits into the machinery of the organization and stated that accurate and satisfactory performance of duty on the part of each worker is essential to the smooth functioning of the machine. Money alone is poor compensation for service, he said. Interest and pride in one's work should go hand in hand with monetary consideration. Doctor Taylor further stated that one of his reasons for suggesting the formation of a women's council was because he realized that the higher positions in the executive office of the Bureau of Agricultural Economics are filled by men, and he had wondered whether the women of the bureau are receiving unbiased consideration when competing with men doing similar work. Any woman in the bureau who thought she had a grievance was urged to take up the matter with her woman representative on the council.

NEED FOR VILLAGE IMPROVEMENT

Nearly 20,000,000 people in the United States, or about one-fifth of the population, live in villages, and 30,000,000 farming people use these villages for purposes of business, education, religion, health, and social well-being. Yet these centers of rural population are usually unattractive and often very ugly. Villages in other countries are generally much superior to those of the United States in design, in the character of their streets and public buildings, and in their approaches and recreation spots. A start, however, has been made toward beautifying the American village.

Some examples of leadership in this respect are recorded by the department, which has been studying the problem of village planning from the standpoint of its importance to the rural community and particularly to the farmer.

It is more as a buying than as a selling place that the farmer makes use of the village. In marketing his principal products he generally deals with some large distributing center. But he purchases his household supplies in the village. He goes there for amusement and for social purposes generally. His children often go to school there. An at-

tractive village, says the department, is an important influence in stabilizing farm life and in counteracting the attractions which cities have for the young people of the farms. As the farmer's chief point of contact with outside interests, the village can make a big contribution to the happiness of farm life, even if it be considered from no other standpoint than the fact that it is the place where the farmer spends a large part of his income.

Where villages are being made more beautiful, the impetus has come in nearly every case from local initiative. Villages that have well-planned streets, attractive recreation spots, and pleasing approaches are nearly always indebted for these advantages to the energy and public spirit of some small group of citizens. Under such inspiration dump heaps have been turned into garden spots, unsightly shacks and dilapidated stores have been torn down and replaced by smart, substantial business buildings, and extensive programs of landscape gardening and tree planting have been undertaken. Villages that have embarked on this path are finding that beauty pays. It improves local business and attracts tourist business. It enhances real estate values, and has a powerful influence in raising individual standards of efficiency and enterprise.

REPORT ON RAT-CONTROL PRODUCTS

A special report recently prepared in the Biological Survey gives some interesting information concerning the money expended for poison and other materials with which to combat rats in the United States. Although this is a comparatively small item in the list of losses chargeable to rats, it is one that can be measured with a reasonable degree of accuracy.

Letters were written to all concerns in the United States which were listed as being engaged in the manufacture of preparations or devices to combat rats. Definite information or figures considered reliable were received from 22 manufacturers of chemical poisons, from nine manufacturers of bacterial viruses, and from four trap manufacturers.

A compilation of the figures received showed that approximately \$1,380,000 is expended annually for chemical poisons to combat rats. The amount spent for bacterial rat viruses is about \$500,000 per year. The reports of money spent annually for rat traps were incomplete, but showed an expenditure in excess of \$233,000. This indicates that more than \$2,000,000 is expended annually in the United States on products sold for rat control.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How many violations of the Federal food and drugs act were found during the past year?

Answer. During the last fiscal year 1,498 violations of the food and drugs act serious enough to warrant court action were found by inspectors of the Bureau of Chemistry. Of this number 690 prosecutions were instituted while the goods were seized in the remaining 808 cases. The largest number of prosecutions were brought for the adulteration and misbranding of butter and feeds, while feeds, canned fish, remedies, and butter led the list of seizures.

The import shipments of foods and drugs examined during this period totaled 8,401, of which 3,781 were detained for some violation of the law.

Question. What proportion of the cost of living of farm families comes from the farm without purchase?

Answer. According to a study made by the Bureaus of Agricultural Economics and Home Economics of 402 farm families in New York State, 34 per cent of the total average expenditure of \$2,012 was furnished by the farm without direct purchase. The items so furnished were: Food valued at \$399, or slightly over half the total cost of food; rent at \$234; and fuel at \$59. Further details of this study are reported in Department Bulletin 1214.

Question. Can clothes be treated in any way to make them mothproof?

Answer. Moth-proofing solutions are at present being advertised in the fabric trade. The Bureau of Entomology has tested a number of these so-called moth-proofing solutions and found that none of them accomplish all that is claimed for them. Farmers' Bulletin 1353 on clothes moths and their control contains the statement that the bureau knows of no treatment which will permanently moth-proof clothing. No more definite statements than this appear to be justified as yet.

APPROPRIATIONS FOR VIRGINIA AGENTS

Uncertainty of the continuance of agricultural extension work beyond one year in seven Virginia counties has been removed from the minds of both exten-

sion officials and farmers within the past three months, according to a recent report of the Virginia extension service. This has been done by long-time appropriations for the employment of county farm demonstration agents made by the boards of supervisors of these seven counties.

Four more years of continuous extension work have been assured three counties by appropriations of their boards for that period, Henrico County in which W. L. Kirby is agent, King George County with L. M. Walker agent, and Nansemond County in which County Agent Paul Blandford is located, the report states. Three years of extension work, at least, may be looked forward to by three other Virginia counties, Lee County, Grayson County where D. T. Painter is agent, and Pulaski County where E. C. Grigsby is county agent. One county, Giles, with C. D. Lewis for county agent, has appropriated funds to continue extension work for two years.

It is interesting to note that one of the counties providing for three years' extension work, Lee County, has been without a county agent for the past five years. M. V. Koger, formerly extension agent in Hawkins County, Tenn., has been employed by Lee County, according to the report of the Virginia extension service. Nansemond County, which has just arranged for four more years' extension work, has employed the present agent, Paul Blandford, since June, 1911, more than 13 years.

County Agent Especially Valuable to Indian Service

"The county agent is a live wire, valuable for his ability to stimulate and encourage as well as for his professional knowledge, and more of the helpful cooperation which the Indian reservations have been receiving from this source is desired," said H. W. Shipe, chief of the industrial section of the Office of Indian Affairs, Department of the Interior, in a discussion of the industrial work of the Indian Service at a conference of department extension workers and others interested, January 28, in the Office of Cooperative Extension Work. "The county agent can help the reservation farmer's work through keeping him in touch with up-to-date farming, and the reservation farmer can aid the county agent by supplying a knowledge of reservation regulations and interpretation of Indian character and traditions."

Some years ago, Mr. Shipe said, Congress provided that land—160 acres or more, depending on its character—should

be allotted Indians adjudged competent to look after the acreage which the Government had been holding in trust for them. Trust patents were to be issued to them and rationing responsibilities of the Government for these Indians were to be ended. These allotments have often been tracts of unimproved land, and the Indian settlers have had to face the same difficulties which the homesteaders found, without the latter's experience and equipment. It is the task of the farmer on the staff of reservation officers to encourage these "trust patent" Indians to engage in farming, and help them to acquire a desire for farming as well as to assist them with farming methods. In this task he must contend with the nomadic habits of the race, its dependence for many generations on "ration day," and a temperament which does not adapt itself easily to the continuous responsibilities entailed in care of livestock and other farm enterprises. The cooperation and encouragement of the county agent can be of great assistance to him in this undertaking.

Some excellent results have been obtained on the Blackfeet Reservation, Mr. Shipe stated, through the organization of groups of Indian families into what are called chapters, for agricultural work. From 8 to 15 families living near an irrigation ditch, a day school, in a small valley or about some other center, form the average chapter. One of their number is made president. The reservation superintendent and farmer work through these chapters to keep the Indian families interested in doing their share on a five-year agricultural program which was adopted five years ago by the Blackfeet through the efforts of the superintendent. Persons who visited this reservation five years ago when adverse climatic conditions and crop failures had made it necessary to ration the entire tribe and who have seen these Indians again within the past year or two, report a most marked improvement. The large majority of the families are now producing a full year's supply of food, fuel, and clothing and have changed from an attitude of despondence to one of encouragement. They have greater interest in farming and most of them take great pride in their ability to be self-supporting.

Mrs. May Stanley, also of the Indian Service, spoke of the extension work with boys and girls of the reservations. It has been particularly successful, she said, in creating interest in agriculture and homemaking, although the nomadic tendencies of the families sometimes make it difficult for the children to complete their work.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

VAN FLEET RASPBERRY—A NEW VARIETY

The development of a new hybrid variety of raspberry, which is considered very promising for home gardens and local markets from New York and southern Michigan southward to northern Florida and Louisiana, might well be listed with the many special accomplishments of the department. The Van Fleet raspberry, so named after the late Doctor Van Fleet, who developed it, has numerous claims to superiority, and is the new hybrid variety in mind. It is considered especially desirable in Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida, States in which raspberries are not commonly grown.

The horticultural varieties of raspberries grown in the United States are derived from three species, the common blackcap, the common red raspberry, the European raspberry, and their varieties. The Van Fleet is hybrid of the common red raspberry and one of the wild raspberries of temperate Asia.

None of the raspberries under cultivation in foreign lands seem promising for the temperate parts of the United States, but many species of wild raspberries in temperate Asia have numerous characteristics that are attractive to the plant breeder. Many have extraordinary vigor of growth; others are resistant to diseases affecting varieties now cultivated; some have very large fruit; and certain ones have enormous fruit clusters. The seed from one of these with enormous fruit clusters was collected in China in 1907 and sent to the Office of Foreign Seed and Plant Introduction.

From this seed plants were grown which blossomed in 1910 at Chico, Calif. The late Dr. Walter Van Fleet, at that time superintendent of the United States Plant Introduction Garden at Chico, hybridized it, using pollen of the Cuthbert red raspberry. Forty to fifty plants were grown from the seed in 1911 at the Bell Horticultural Field Station, Glenn Dale, Md. One of these proved far superior to the others, was named the Van Fleet, and has been propagated and distributed for trial.

Several qualities of the Van Fleet raspberry make it particularly valuable. While its fruit is only medium size and somewhat soft, it is specially characterized by its vigor, health, and productiveness of the bush, its late ripening sea-

son, and its adaptation to conditions in the Southern States. It probably is not suited for a general market berry, but is of value for home use and local markets, and should extend raspberry growing south of its present range to northern or central Florida. At Washington, D. C., it is one of the hardest raspberries, if not the hardiest. It starts growth early in the spring, and even though hard freezes have occurred at Bell station after 4 to 6 inches of growth had been made, it has matured a full crop. In 1923 canes of the Cuthbert variety were killed to the ground, while those of the Van Fleet close by were uninjured.

The new variety has also shown notable resistance to diseases injurious to raspberries. Most striking is its freedom from leaf-spot, which is especially serious in the southern limits of raspberry growing and seems to restrict the growing of this fruit in the South.

The development of the Van Fleet raspberry is another one of the many instances of the use of foreign plants in breeding varieties suitable for extending the range of growth in this country.

WITH EXTENSION FORCES

UTAH DAIRY COUNTY FORGES AHEAD

Three per cent of the bulls in the dairy herds of Weber County, Utah, in which dairying is a major farm activity, were purebred and of approved dairy breeds. Ninety-seven per cent were scrubs and grades whose inherited power for milk production was equal to little more than raising a calf. A good market for milk was accessible, but the business of dairying was at low ebb. Stables and equipment were inadequate and production low. The farmers were discouraged. They found little profit in the business and lacked confidence in suggested measures for improvement.

This was the condition County Agent W. P. Thomas found when he took up his work in the county. He had much to do in organizing his work and taking care of the important matters that demanded immediate attention. When he at last reached a point where he could take up the dairy herd problem, one of his first acts was to launch a vigorous campaign having for its ultimate goal purebred dairy bulls available to every dairy herd.

Speakers were obtained and meetings held in every community where dairy herds were owned, not once, but time and time again, and at last interest developed here and there. This interest was watched for and encouraged. One

at a time a few purebred dairy bulls were purchased. Then an organized effort was made and a carload bought. These bulls were selected from the best herds in States where breeding had advanced and each bull was chosen by the butterfat record of his ancestry. In 1921 the movement for better bulls had raised the number of purebred bulls in the county to 29 per cent. This was increased in 1922 to 40 per cent.

The next year 14 meetings were held in the dairy communities. Thirteen bull association blocks were organized. A leading factor in the successful formation of these blocks was the cooperation given by local banks in financing individual farmers who desired to participate but lacked sufficient ready money. All members went to Ogden to inspect the bulls before they were distributed to the various blocks. This aroused much interest and enthusiasm. A general campaign for the elimination of the scrub dairy sire was begun this year and lasted well into the next, 1924.

Lantern slides showing some scrub sires of that county, some outstanding purebred sires, heifers from each class, and the production from each class were used during the winter months in all communities.

A 10 by 20 foot map of the county, showing the communities where purebred sires were located and where scrub sires were found, was shown at the Ogden Livestock Show, with a spot light thrown on it.

Cooperation of local newspapers made possible a continued discussion of the campaign in print.

This campaign has brought the number of purebred sires at the beginning of this year to 107, 71 per cent of all dairy bulls in the county. Four communities boast of 100 per cent purebred bulls. Dairy animals from this county won 22 first premiums out of a possible 44 at the 1924 State Fair. Its "county herds" won first in both Holstein and Guernsey classes.

Charles F. Sarle, agricultural statistician in the Bureau of Agricultural Economics of the department at Washington, and formerly in charge of its Iowa field office, has been awarded first prize in the Babson essay competition of the American Economic Association. The competition was open to any graduate or undergraduate student of an American university on the subject of forecasting the price of a basic commodity. Mr. Sarle at the time he submitted his paper was a graduate student of Drake University, Des Moines, and the subject of his essay was "Predicting the Price of Hogs." The first prize carried a cash award of \$650.

BRIEF REVIEWS OF NEW BULLETINS

Varietal Experiments with Hard Red Winter Wheats in the Dry Areas of the Western United States. By J. Allen Clark, agronomist in charge, and John H. Martin, associate agronomist, western wheat investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 48, figs. 3. February 12, 1925. (Department Bulletin 1276.) Price, 10 cents.

The attempt to grow unadapted crops in the drier sections of the western United States resulted in many failures of pioneer farmers. By introducing hard red winter wheat into certain of these localities which had been abandoned by the earliest settlers a permanent wheat-growing industry has been made possible. Hard red winter wheat is now the principal crop in many sections of limited rainfall, including much of Kansas and Nebraska, western Oklahoma, northeastern Colorado, central Montana, and the drier portions of the Columbia Basin of Oregon and Washington. The results of varietal experiments with winter wheat, conducted by the department at 15 different stations form the basis of this publication.

Beef-Cattle Production in the Range Area. By Virgil V. Farr, associate animal husbandman, Animal Husbandry Division, Bureau of Animal Industry. Pp. 44, figs. 20. January, 1925. (Farmers' Bulletin 1395.) Price, 10 cents.

Although farming has been making inroads on the pasture lands of the western range area for the past 30 years, it is still the great beef reservoir of the country. Many ways in which this native-grass land may be made still more productive are brought out in this publication. The bulletin covers the various problems of the range cattle producer, including management of the breeding herd, handling cattle on the range, native forage plants, prevention of loss from poisonous plants, parasites, and diseases, selection of bulls and cows, improvement of ranching properties, and increasing the beef-producing capacity of pastures.

Corn and Hog Correlations. By Sewall Wright, Animal Husbandry Division, Bureau of Animal Industry. Pp. 60, figs. 30. January, 1925. (Department Bulletin 1300.) Price, 10 cents.

The cycle of extremes of overproduction and underproduction of hogs is an undesirable feature of the hog business, resulting in prices which give good profits at one time and poor profits or even losses at others. According to investigations by the department a careful consideration of all conditions which contribute to the making of prices would result in a more careful planning of breeding operations by farmers. A study of this subject covering the period from 1871 to 1915, years considered to be to a large extent free from unusual influences, is published in detail in this bulletin. It is to a large extent technical and designed for those who wish to go deeply into the study of conditions affecting the production and marketing of hogs. However, the conclusions reached are of great importance and value to all producers of pork.

ADDITIONAL PUBLICATIONS

A Study of Farm Organization in Central Kansas. By W. E. Grimes, J. A. Hodges, and R. D. Nichols, Kansas State Agricultural College, and Jesse W. Tapp, assistant agricultural economist, Bureau of Agricultural Economics. Pp. 75, figs. 31. January 30, 1925. (Department Bulletin 1296.) Price, 15 cents.

Soil Survey of the Victorville Area, California. By A. E. Kocher, of the U. S. Department of Agriculture, and Stanley W. Cosby, of the University of California. Pp. 50, pls. 4, fig. 1, map. (From F. O. Sells, 1921.) Price, — cents.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 183. Notices of Judgment 12601-12650, pp. 335-357. February 18, 1925. Price, 5 cents.

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JARDINE TO BECOME

HEAD OF DEPARTMENT

(Continued from page 1)

end of his course was made assistant instructor in agronomy at the college.

After graduation the man who later was to become one of the country's leading agricultural leaders became instructor in agronomy at his alma mater, but after a year resigned to become manager of a company farming a large ranch in central Utah. Here he raised large quantities of wheat and other small grains. Later he went back to

the department of agronomy at Logan and remained there until he went to Washington in 1907 to become assistant cerealist in the Department of Agriculture. In this position he traveled extensively in the grain-growing States of the West and spent one summer studying Canadian agriculture.

Head of Kansas School

In 1910 Doctor Jardine left the department to head the department of agronomy at the Kansas State Agricultural College, and three years later was elevated to the position of dean. In five more years he was made president of the college, the position he relinquishes to accept the secretaryship.

During Doctor Jardine's busy life, since finishing his college course, he has found time to carry on further studies in addition to his investigational work. He took up work in the graduate school at the University of Illinois. His doctor's degree was conferred on him by Campbell College.

While at school at the agricultural college Doctor Jardine became acquainted with Miss Effie Nebecker, also a student there, who is now Mrs. Jardine. They have three children—William, 16 years old, now a freshman at Manhattan; Marian, 14; and Ruth, aged 9.

Doctor Jardine is a member of the Congregational Church, a Mason, and a member of the Rotary Club. He is also a member of the Cosmos Club of Washington and of the Authors' Club of Kansas. His written works include bulletins on livestock, dry farming, and crop production. He is said to be one of the greatest authorities in the country on dry farming and the growing of wheat.

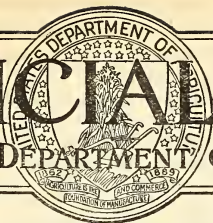
He is a fellow of the American Association for the Advancement of Science, was president of the International Dry Farming Congress and Soil Products Exposition from 1915 to 1916, and of the American Society of Agronomy from 1916 to 1917. He is a member of the executive board of the National Research Council, of the advisory council of the Agricultural Commission of the American Bankers' Association, and of the following fraternities: Sigma Xi, Beta Theta Pi, Alpha Zeta, Phi Gamma Phi, and Gamma Sigma Delta.

Doctor Jardine will arrive in Washington about March 4.

Indorsement and approval of the wool standardization work of the Bureau of Agricultural Economics were given in a resolution adopted at the twenty-eighth annual convention of the Oregon Wool Growers' Association, which was held recently.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MARCH 4, 1925

No. 9

MOVE TOWARD UNIFORM MARKING OF HIGHWAYS

Secretary Names Board of Officials to Select Uniform Numbers and Safety Devices

An important step toward the uniform numbering and marking of highways of interstate character was taken February 25, when Secretary of Agriculture Howard M. Gore appointed a board, composed of officials from the Bureau of Public Roads and the State highway departments to prepare a plan and secure its adoption by the various States.

The members of this joint board with power to do this work are as follows: Thomas H. MacDonald, chief of the Bureau of Public Roads, Washington, D. C., chairman; E. W. James, chief of design, Bureau of Public Roads, Washington, D. C.; A. B. Fletcher, consulting highway traffic engineer, Bureau of Public Roads, Washington, D. C.; Frank F. Rogers, State highway commissioner, Lansing, Mich.; C. M. Babcock, commissioner of highways, St. Paul, Minn.; A. H. Hinkle, superintendent of maintenance, Indianapolis, Ind.; James Allen, State highway engineer, Olympia, Wash.; Cyrus S. Avery, chairman State highway commission, Tulsa, Okla.; L. A. Boulay, director of highways and public works, Columbus, Ohio; O. A. Brown, State highway commissioner, Bismarck, N. Dak.; James A. French, State highway engineer, Santa Fe, N. Mex.; C. P. Fortney, State highway engineer, Charleston, W. Va.; Frederick Stuart Greene, director of public works, Albany, N. Y.; W. O. Hotchkiss, chairman State highway commission, Madison, Wis.; John A. MacDonald, highway commissioner, Hartford, Conn.; C. H. Moorefield, State highway engineer, Columbia, S. C.; Robert M. Morton, State highway engineer, Sacramento, Calif.; B. H. Piepmeier, chief engineer, Jefferson City, Mo.; Henry G. Shirley, chairman State highway com-

mission, Richmond, Va.; Wm. G. Sloan, State highway engineer, Trenton, N. J.; and Wm. F. Williams, director of public works, Boston, Mass.

States Formerly Conducted Work Separately

Commenting upon the very important duties of this board and the helpful results which will undoubtedly come from their action, Mr. Gore said:

"The Association of State Highway Officials has been giving earnest consideration to this matter for several years and each State, as a unit, has been frantically passing ordinances, erecting signs, eliminating railroad crossings, and using the generous space in the daily press to teach the public safety methods of highway transportation.

"There have been a number of safety council meetings and gatherings of various groups interested not only in highway safety, but in highway convenience, which have from time to time published their suggestions, but it has been found that there have been so many divergent views and conflicting ideas that the general public in traveling over the highways through the several States encounter considerable confusion because of the great variety of direction signs and danger signals.

"This move to coordinate the work of the various States through this governmental agency is just another proof that the Federal Government in its cooperation with the States is doing a vital work which would not otherwise be accomplished if entire dependence were placed upon the States themselves.

Main Highways Will Be Numbered

"This joint board will not only adopt uniform signs and danger signals to be approved by the States, but will also number the main highways throughout the country. The purpose of this is to simplify traveling directions for the public so that a person traveling from New York through Chicago to San Francisco may be able to do so by following a certain number all the way. Then also every danger sign will mean the same in every State. It is believed that these measures will add much to the

(Continued on page 2)

MEDAL AND MONEY GIFT FOR WORK IN SCIENCE

Bill Proposes Recognition of Distinguished Workers in Federal Service

Authority for the President to give a medal of honor and money awards to Government employees for distinguished work in science is proposed in a bill (H. R. 12359), introduced in Congress by Representative Griffin, of New York. The bill says that these awards may be made to scientific workers of the Federal Government whose labors have contributed to the advancement of scientific knowledge or practical human welfare.

The medal would be known as the Jefferson medal of honor for distinguished work in science. Not more than five scientific workers would receive the medal in any one year. Persons thus honored would receive \$100 on the presentation of the medal, and thereafter annually a sum of not less than \$100 and not more than \$500. A commission of three persons consisting of one representative from the National Academy of Sciences, one from the American Association for the Advancement of Science, and one from the American Engineering Council, would make recommendations to the President concerning proposed awards.

Purnell Bill Passed by Both Houses

A bill (H. R. 157) authorizing additional endowments for agricultural experiment stations, has been passed by both Houses and sent to the President for his approval. This is the Purnell bill, recommended by the President's Agricultural Conference.

The measure authorizes, in addition to the amounts now received by agricultural experiment stations, appropriations of \$20,000 for the fiscal year ending June 30, 1926; \$30,000 for the fiscal year ending June 30, 1927; \$40,000 for the

fiscal year ending June 30, 1928; \$50,000 for the fiscal year ending June 30, 1929; \$60,000 for the fiscal year ending June 30, 1930; and \$60,000 for each fiscal year thereafter.

This money would be paid to each State and Territory where experiment stations are now established. The funds would be used only for research and experiment, and for publishing results of investigational work. It is provided that no portion of the money exceeding 10 per cent of each annual appropriation shall be used under any consideration for the purchase, erection, or maintenance of any building, or for the purchase or rental of land.

Rejecting the Capper-Haugen cooperative bill embodying recommendations of the President's Agricultural Conference, the House, on February 26, passed instead the Dickinson bill (H. R. 12216), which provides for the formation of a cooperative marketing advisory council and a Federal cooperative marketing board of four members. Members of the board would be paid a salary of \$10,000.

The board would be authorized to cooperate with the Bureau of Agricultural Economics in aiding cooperative associations, making surveys of marketing problems, advising producers, and promoting the establishment of uniform grades and standards. An appropriation of \$500,000 is made available to carry out these objects.

The Dickinson bill differs from the Capper-Haugen bill chiefly in that it does not provide for the registration of cooperative associations in a Federal system.

Other features of the Capper-Haugen bill not contained in the measure finally passed by the House authorized the formation of clearing house and terminal market organizations, permitted pooling of products among cooperative associations, and specifically legalized the exchange of crop and market information, and the collective action of many associations in plans for orderly production and marketing of farm products.

Another bill (S. 4359) has been added to the list of proposed cooperative measures. Senator Ladd, of North Dakota, is author of the bill which would empower the Secretary of Agriculture to assist cooperation by the promotion of sound business practices, by establishing uniform standards of classification, by registering cooperative associations, and by other means.

Registration of cooperative concerns in Federal marketing associations would be permissive. Clearing-house associations and terminal marketing associations are provided for in the bill. On application from such bodies the Secretary of Agriculture would be authorized to make necessary economic sur-

veys as a preliminary step in launching marketing programs.

Members of the Federal organization of cooperative concerns would be required to accept Federal arbitration in all disputes as to grades and standards and trade practices. They would be called upon to submit their accounts and records to official audit.

Would Subsidize Exportation of Farm Crops

Representative Jones, of Texas, is the author of a bill (H. R. 12346), to subsidize the exportation of farm products whose prices are depressed by foreign market conditions. Exporters of such products would obtain certificates from the custom authorities showing the amount and domestic value of the goods shipped abroad. These certificates would entitle them to a payment from the Treasury of 10 per cent of the value of the exported goods. Funds to make such payments would be appropriated out of customs revenue.

Deficiency Bill Reported to House

The second deficiency appropriation bill (H. R. 12392), for the fiscal year 1925, as reported to the House from the Committee on Appropriations, contained the following items affecting the Department of Agriculture are the following: An increase in the authorization from \$1,000 to \$4,948, payable from the animal husbandry appropriation for 1925, for expenses in connection with the distribution of medals to prize winners at the International Livestock Exposition held at Chicago, December, 1924; authority to use \$75,000 of the \$3,500,000 deficiency appropriation for foot-and-mouth disease, provided by the deficiency act of December 5, 1924, for special researches concerning foot-and-mouth disease, with the object of discovering new methods of prevention and eradication; \$31,000 for special sugar-cane breeding investigations; \$1,335,000 for fighting forest fires, fiscal year 1925; \$7,700 for expenses incurred in fire prevention on the so-called Coos Bay Wagon Road lands, in Oregon, fiscal year 1924; authority to apportion among the several States, Alaska, and Porto Rico the sum of \$7,500,000 authorized by the act of February 12, 1923; to be appropriated for forest road and trail construction, and to incur obligations, approve projects, and enter into contracts for carrying out the work under this act; authority to use \$10,000 of the unexpended balance of \$150,000 provided by the deficiency act of December 15, 1921, for the investigation and prevention of insect infestations on public lands in Oregon and California; \$10,000 for special investigations of the alfalfa weevil; extension of availability of the appropriation of \$85,095, carried in the agricultural appropriation act for 1926, to cover the administration of the Alaska game law of January 13, 1925,

during the fiscal year 1926; authority to use \$31,000 of the appropriation for general expenses, Bureau of Dairying, fiscal year 1925, for the purchase of additional land at the Beltsville farm in Maryland; extension of availability of the \$8,000 appropriation provided by the deficiency act of December 5, 1924, for the control of coconut scale on the island of Guam.

MOVE TOWARD UNIFORM MARKING OF HIGHWAYS

(Continued from page 1)

safety of the traveling public as well as to its convenience and personal comfort. You would be surprised if you knew the additional expense met by the public in the unnecessary mileage traveled because of misdirection or no direction at all.

"Thirty-eight State legislatures are now in session, and while a few States have no legislation on their statute books to provide for this coordinating work, a vast majority already has that authority and it is expected that the remaining States will gladly fall in line.

"This board is being formed at the unanimous request of State highway departments that have been studying the question for several years, and I am only too glad to cooperate with them in bringing about this much-needed national consideration of the great traffic demands for uniform traffic regulations throughout the country."

Interest in Marking of Federal Roads

The department is directly interested in the marking of the roads of the Federal-aid highway system for which it administers Federal funds. This system, consisting of approximately 175,000 miles, is being constructed at the rate of from eight to ten thousand miles per year and when completed will constitute the main highway system of the Nation. It reaches every part of the Nation and will either pass through or connect with improved roads leading to every city of 5,000 or more population.

The roads of this system are constructed by the various States, all plans and construction being subject to the approval of the department. The Federal Government in general providing up to 50 per cent of the cost. The interest of the department does not cease with the completion of these roads and it should aid as far as possible in seeing that the greatest use with the greatest degree of safety is made of them. The system has been laid out with both the national and local needs in view, groups of State highway officials meeting with engineers of the Bureau of Public Roads to work out the proposed system. It is only logical that these interests be brought together to determine a uniform system of highway marking.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

LAND FOR EASTERN NATIONAL FORESTS

The National Forest Reservation Commission has just authorized the purchase of 132,014 acres of land in 10 Eastern States for additions to national forests, according to the Forest Service. The average cost of the land will be \$5.24 an acre. More than 21,000 acres is in the White Mountains of New Hampshire, and is partly of heavily forested lands in some of the scenic regions. In Pennsylvania the purchase of 23,320 acres was authorized, thus increasing the area of the Allegheny Forest, which protects the headwaters of the Allegheny River, to nearly 200,000 acres. According to W. W. Ashe, secretary of the commission, this brings the total area of lands being acquired for national forests in Eastern and Southern States to 2,580,604 acres.

REPORT ON LIVESTOCK IMPROVEMENT

More than 1,600,000 head of breeding stock on farms in the United States are undergoing systematic improvement through the use of purebred sires, according to a report just issued by the Bureau of Animal Industry. Persons participating in this work at the close of the year 1924 numbered 15,137 exclusive users of purebred sires, widely distributed among 46 States. The department, in conjunction with State and county extension workers, is aiding these stock owners to improve their methods of breeding and feeding.

ADVANCE DATE OF QUARANTINE HEARING

The public hearing to consider the bringing of Porto Rican fruits and vegetables under permit and any restrictions necessary to prevent the entry into the United States of certain pests known to occur in Porto Rico, scheduled for March 20, 10 a. m., Washington, D. C., has been advanced to March 18, at the same hour and place, the Federal Horticultural Board has just announced.

VALUABLE FURS SHIPPED FROM ALASKA

The value of furs, exclusive of fur seal, shipped out of Alaska for the calendar year 1924 amounted to \$1,707,834, according to figures just compiled by the Biological Survey, which has jurisdiction over land fur-bearing animals in

the Territory. These figures are derived from reports received by the bureau from postmasters and express agents in the Territory. Combining this amount with the value of the skins taken out by other means the total will easily reach \$2,000,000. This makes one of the best records of fur production for any year, in spite of the fact that the average price of skins for 1924 was lower than for 1923 and that there was a close season on two of the most valuable furbearers—beavers and martens.

NO DAMAGE TO GAME BY POISON DUST

Numerous reports of damage to game have resulted from the extensive use of calcium arsenate in boll weevil control work, and the Biological Survey has been cooperating with the Bureau of Entomology in an effort to determine whether there is any basis for these reports. So far there seems no basis whatever, and little or no chance that the ordinary operation of dusting will result in serious injury to insectivorous birds or other game.

INDIA COTTON CROP REDUCED

The second estimate of lint cotton production in India is 5,011,000 bales of 478 pounds net, which is 58,000 bales less than the first estimate in December, according to a cable from the Indian Department of Statistics to the department. The crop last year was 4,247,000 bales. Acreage planted to cotton is now estimated at 26,415,000 acres compared with 23,088,000 acres last year.

TOO MANY FARMERS BAD FOR NATION

Too many people on farms results in an excess of farm products sold at unremunerative prices, which in turn has a tendency to hold down the standard of living in the country and blight the lives of the growing boys and girls on the farms, declares Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics.

"When the movement from country to city goes on at a sufficiently rapid rate there will not be a surplus of farmers and, one year with another, farm prices will be adequate to maintain the desired standard of living on farms in rural communities.

"The danger in the movement is that the process will be selective, taking the best stock from the rural community and leaving the weaker elements of the population on the farms to the detriment not only of agriculture, but of the Nation as a whole. The movement should operate in such a way as to leave

in the country those elements of our rural population best suited to an efficient type of farming, a higher standard of living on the farm and in the rural community, and a standard of rural citizenship commensurate with the needs of our democracy."

Pan American Road Tour Shown in Motion Pictures

Motion-picture films illustrating the tour of the Pan American Highway Commission through several of the Eastern States in June, 1924, which were made by the Department of Agriculture at the request of the Pan American Union, were shown in the Hall of the Americas at the Pan American Union on the afternoon of February 9 before an audience of 500 people, including the Secretary of State, Secretary of Agriculture, diplomats of South and Central America Republics and officials of the Department of Agriculture, the Department of Commerce, the State Department and other departments of the Government.

Music, including three special numbers and incidental music during the projection of the films, was furnished by the Marine Band orchestra. The program was opened with remarks by Secretary Gore, in the course of which he explained the purpose of the films which are believed to be the first pictures of the kind to be made by any Government department for the purpose of promoting friendly relations with foreign countries and assisting in educational campaigns conducted outside of the United States from which the United States may expect no direct benefit.

The pictures made during the trip by the office of motion pictures have been arranged in two two-reel films entitled "Road Building in the United States of North America," and "A Highway of Friendship."

In the opinion of Dr. E. Gil Borges, acting director of the Pan American Union, the films will impress the Latin American people with the great courtesy and friendly spirit of helpfulness shown to the Latin American delegates by the authorities and people of the United States and they will widen and deepen the interest which is being aroused in road improvement in Latin America and be as helpful as any other contribution the United States can make in stimulating the betterment of South American roads.

Crop report regulations including the dates and hour of day when the various crop reports will be released during 1925 are now available as Miscellaneous Circular No. 37.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Amendment to the Fiscal Regulations

MEMORANDUM No. 520—February 19, 1925.
Section (f) of paragraph 33 of the Fiscal Regulations of the Department is hereby amended to read as follows:

33. ACTUAL TRAVELING EXPENSES.—(f) The checking and portage of baggage at depots, hotels, or docks upon arrival and departure, charges for checking not in excess of prevailing rates, and portage for each piece not to exceed 25 cents at docks and 10 cents in any other case; *Provided*, That because of State laws reimbursement for the payment of any porter fee herein mentioned, other than to station or dock porters, will not be allowed in Mississippi, Tennessee, or Arkansas.

This section was amended January 28, 1925, by memorandum No. 515 so as to permit reimbursement for station porter fees paid by employees traveling in antitipping States, in accordance with 4 Comp. Gen. 410, in which it was held that fees paid to station porters for the carrying of heavy hand baggage do not constitute a "gratuity" or "tip" within the meaning of the antitipping laws. That amendment, as drawn, was ambiguous and was interpreted by the General Accounting Office to allow but 25 cents for the handling of baggage at docks, regardless of the number of pieces, whereas it is the intention to allow not to exceed 25 cents for each piece at docks. The purpose of this amendment is to clarify this ambiguity.

I. L. MILLER SUCCEEDS DR. L. E. SAYRE

I. L. Miller, food and drug commissioner of Indiana, has been appointed a member of the joint committee on definitions and standards for foods to represent the Association of American Dairy, Food, and Drug Officials. Mr. Miller takes the place of Dr. L. E. Sayre who has represented the association since 1920.

The joint committee on definitions and standards is composed of three members of the association of Official Agricultural Chemists, three members of the Association of American Dairy, Food and Drug Officials, and three from the Department of Agriculture.

J. Hortvet, of Minnesota, Dr. C. D. Howard, of New Hampshire, and Dr. E. M. Bailey, of Connecticut, are the representatives from the Association of Official Agricultural Chemists; Dr. W. W. Randall, of Maryland, R. E. Rose, of Florida, and I. L. Miller, of Indiana, the representatives from the Association of American Dairy, Food and Drug Officials, and Dr. W. W. Skinner, Dr. F. C. Blanck, and R. E. Doolittle, from the Department of Agriculture. Doctor Skinner, assistant chief of the Bureau of Chemistry, is the chairman of the committee and A. S. Mitchell, of the bureau, is the secretary.

PAUL D. KELLETER RESIGNS

Paul D. Kelleter, director of purchases and sales in the Office of the Secretary, has resigned to accept the position of director of forest extension at the New York State College of Forestry at Syracuse University, New York.

Mr. Kelleter entered the Department of Agriculture on July 1, 1904, as forest assistant in the Forest Service and was connected with that bureau continuously until July 1, 1923, when he was transferred to the Office of the Secretary to organize and coordinate the purchase activities of the department.

His experience during his 21 years' service has been for the most part along administrative and organization lines. In addition he has had extensive field experience in many sections of the West: His longest assignment was in the Black Hills region of South Dakota and Wyoming, first as special examiner of fraudulent claims and then for 10 years as forest supervisor of the Black Hills National Forest. From 1910 to 1912 Mr. Kelleter served as departmental representative and chairman of a board to effect the exchange of scattered school sections belonging to South Dakota for a compact tract of land of equal value and area. This exchange was the first of its kind. The selected area has been set aside as the South Dakota State Park.

Mr. Kelleter was graduated from Washington University in 1902 with the degree of A. B., and in 1904 received the degree of M. F. from Yale University.

DR. E. I. SMITH

The death on February 18 at Nashville, Tenn., of Dr. E. I. Smith, veterinary inspector of the Bureau of Animal Industry, in charge of tuberculosis eradication and hog-cholera control in Tennessee, came as a shock to his many friends in private and official life. He

suffered a stroke of apoplexy two days previously, from which he did not rally.

Doctor Smith was born at Randolph, N. Y., November 11, 1874. He attended high school in his home town and later entered New York State Veterinary College, Cornell University, from which he was graduated in the class of 1903 with the degree of D. V. M. He entered the service of the bureau October 1, 1906, and was assigned to meat inspection at Newark, N. J. He filled various positions and in 1916 was placed in charge of tick eradication in Louisiana. In 1920 he was transferred to Connecticut and given charge of tuberculosis eradication in that State, and later he was given the assignment in Tennessee which he held at the time of his death.

In the discharge of his duties Doctor Smith displayed intelligence and good judgment. His genial personality endeared him to all with whom he came in contact, and his zeal in the public service, together with his tact in dealing with fellow employees and the public, made him a valuable employee to the Government.

Doctor Smith is survived by a wife and one daughter. They accompanied the remains to Randolph, N. Y., where the funeral took place.

OFFICE INSPECTS DEPARTMENT LIBRARY

At the request of the office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry, a library information and inspection trip was recently arranged for the office staff. The organization and work of the library service were first briefly outlined by the librarian of the department and members of the bureau library staff. The office workers were then divided into groups, two of scientific workers and one of clerical workers, and were shown through the department library. The catalogues and the arrangement of the book collections were explained, and the reading room, periodical division, and loan desk were visited, attendants being present to demonstrate the work and answer questions. The object of the visit was to familiarize the office staff, particularly the newer members, with the resources of the library and to explain the service which the library is prepared to give.

The Dried Fruit Association of California, in a recent letter to the Secretary of Agriculture, announced that its executive committee had appropriated an amount not to exceed \$1,000 to augment the Federal appropriation for the study of insects attacking dried fruits.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is a purebred cow as susceptible to bovine tuberculosis as a scrub?

Answer. There is no difference in the susceptibility. From July 1, 1921, to April 1, 1924, tuberculin tests were applied to 1,424,302 purebred cattle, of which 4.7 per cent were found to be tuberculous. During the same period 4,456,439 grade cattle were subjected to the test of which 4.8 per cent reacted.

Question. Does the United States Weather Bureau have stations in the Philippines and in the Canal Zone?

Answer. The Philippine Islands have a meteorological service of their own known as the Philippine weather bureau, which is entirely distinct from the Weather Bureau of the United States Department of Agriculture. This service dates from 1865, when meteorological observations were begun at Manila by Jesuit priests. The service was gradually extended, especially with a view to the prediction of typhoons, and was made official by the Spanish authorities in 1884. It was taken over by the American Government at the close of the Spanish-American war. Meteorological work in the Canal Zone is conducted by the section of meteorology and hydrology of the Panama Canal, which is also separate from the United States Weather Bureau.

Question. What disposition is made of furs and of edible migratory waterfowl seized from persons possessing them illegally, and of game killed out of season, in drives, etc.?

Answer. Carcasses of waterfowl and other migratory game birds seized from violators of the migratory-bird treaty act are disposed of by gift to hospitals or charitable institutions for use as food by the inmates or destroyed if not fit for food. Fur-bearing animals are protected by State law, though shipments of furs may violate the Federal law regulating interstate transportation of dead bodies of wild animals or parts thereof. Federal authorities have no police power to seize such illegal shipments, but when seizures are made by State authorities, contraband furs are disposed of under State direction, generally for the benefit of State conservation funds. Under the provisions of the Alaska game act, which became a law on approval by the President on January 13, 1925, confiscated furs and game may be sold by the court

and the proceeds turned over to the Alaska Game Commission for transmittal, half to the Treasury of the United States and half to the Territorial school fund. Jack rabbits killed in drives are usually donated to hospitals or charitable organizations, and are occasionally sold through regular market channels.

Question. Why are there judging teams, or judging work, in connection with 4-H clubs?

Answer. Judging of products or animals is made a definite part of 4-H club work because it provides an effective and attractive means for systematically acquiring knowledge of standards and ability to make comparisons and thus aids in establishing high standards on the farm and in the home. Competitive judging team work adds the stimulus of contest and maintains the interest of young people in judging. Incidentally each boy and girl team member learns good "team" sportsmanship and to assume his share of responsibility for success of the team.

Department and Cotton Men Confer on Handling Methods

Close cooperation between the cotton trade and Government departments in working out cotton-marketing problems was urged by Secretary Gore in addressing the conference of representatives of cotton producers and of the cotton trade and textile industry held under the auspices of the department at Washington, February 24. "There should be a proper understanding between the various groups that participate in the handling of cotton from the time that we begin its production until it reaches the ultimate consumer," the Secretary said.

Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, described the work that has been done by that bureau during the past 10 years in seeking to improve cotton handling and marketing methods. This work has included studies of ginning practices, weather damage, the so-called "city crop," baling, and warehousing. He said that the "city crop" which is the sampling of bales in market channels amounts to some 150,000 bales annually, much of which is the result of excessive sampling.

After reviewing the research work in cotton marketing and handling conducted by the Bureau of Agricultural Economics, the representatives present adopted a resolution urging the bureau to prosecute further its studies looking toward the standardization of cotton-baling methods and the selling of cot-

ton on a net-weight basis. The bureau was also urged to continue its studies of ginning practices, sampling methods in trade channels, high-density compression, and cotton-handling methods generally. It was proposed that after further studies had been made, the bureau draw up a plan of action and call another meeting of the various interests of the industry to consider this plan looking toward fixing uniform methods of covering cotton to eliminate irregularities in "tare" weights, and selling cotton on a net-weight basis.

About 50 representatives of the various branches of the cotton industry were present. Col. Harvie Jordan, secretary of the American Cotton Association, condemned the irregular baling of cotton in the United States, saying that "the American cotton bale is the most wastefully handled package which enters the channels of commerce in any country. The loss on account of wasteful baling runs to \$150,000,000 a year." High-density gin compression by which bales will carry a density of 34 pounds to the cubic foot in place of the density of 12 pounds now applied, was offered by Colonel Jordan as the solution of the baling problem, and also as an effective method of saving freight space now wasted by loose bales.

Representative H. P. Fulmer, of South Carolina, addressed the conference on the subject of the covering or "tare" on cotton bales. He said that "variances in 'tare' weights and practices have cost cotton producers millions of dollars" and that he proposed to introduce a bill into Congress providing Government regulation of a uniform method of applying "tare" in both interstate and foreign commerce.

J. M. Bowman, of the New Orleans Spot Cotton Merchants Association, described the new methods of sampling cotton now practiced in the New Orleans market whereby the cost of handling cotton has been greatly reduced.

Dr. B. W. Kilgore, president of the American Cotton Growers Exchange, spoke on the desirability of reducing gin and weather damage.

Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, presided at the conference.

D. L. Van Dine, field director of the Tropical Plant Research Foundation, who is in charge of the field investigations for the control of sugar-cane insects and diseases in Cuba, was a recent visitor at the department. For several years Mr. Van Dine was in charge of the Bureau of Entomology, malaria mosquito investigations at Mound, La.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

BIRD-MIGRATION STUDIES IMPORTANT

One of the oldest projects of the Biological Survey is the study of the distribution and migration of North American birds. This includes finding out where they breed, where they winter, and at what time and by what route they move to and from their summer and winter homes. It is obvious that such information is absolutely essential to the proper administration of the migratory bird treaty act.

The files now contain over a million records regarding the 1,500 different birds found in the United States and Canada, but there are still many gaps in the information. Moreover, the ranges and migration routes of birds are subject to more or less change, so that it is necessary to continue the work to keep the records current.

Much of the information in these files is from original sources, and contributed by volunteer observers scattered throughout the United States and Canada. These persons send to the Biological Survey, in spring and in fall, records of their observations of the birds in their immediate neighborhoods, giving the dates of arrival and departure, and of breeding, together with other pertinent information. On the roll of observers are over 200 persons, some of whom have been sending in their records for more than 40 years. All this work is done in a fine spirit of co-operation, since there are no funds from which to pay for the time involved.

These records are carded and placed in the bureau files together with those obtained through field operations of the staff and from published sources. These latter include records of North American birds abstracted from all the principal ornithological journals (both American and foreign), separate articles, and books, and are the result of extensive research.

These files are available for consultation by bird students at any time. They form the basis for maps showing the ranges of the various species and for faunal reports, distributional bulletins, and migration tables such as are published from time to time by the Biological Survey. The provisions of the migratory bird treaty and of the act and the regulations to enforce it are very largely based on the data contained in these files.

In 1914 the long-felt desire of ornithologists for definite data regarding the numerical abundance of birds, figures on which comparisons might be based, resulted in the annual censuses of breeding birds. Many questions regarding distribution can be answered through no other means. How many birds per acre breed in the different parts of the country and on different types of land? What is the relative abundance of the different species and how are they distributed? What fluctuations take place in bird life from year to year and over longer periods? How is the bird life of the arid lands of the West affected by irrigation? How much have birds increased under protection? Do the present Federal and State laws adequately protect the birds?

It is obviously impracticable to attempt to count all the birds in the country, but the birds that nest on a tract of 40 to 80 acres can be counted with considerable accuracy. The combined counts of many such sample tracts furnish a key to the conditions in the country as a whole. Some of the results that have been obtained from this method of study are shown in Department Bulletin No. 1165, Report on Bird Censuses in the United States, 1916 to 1920.

While anyone knowing even a few birds may acceptably report on the migration of birds, the enumerator of birds nesting on a given tract should be thoroughly familiar with all the birds likely to be found. A bird census that tells only a part of the story is of little value.

The Biological Survey is very desirous of increasing the number of its co-operators in both migration and census studies. Full directions and report blanks will be sent to any interested upon application to the Chief, Biological Survey, Department of Agriculture, Washington, D. C.

WITH EXTENSION FORCES

AGENTS EXCHANGE EXPERIENCES

The "how" and the "why" things had been done in their counties, told by county agents to each other, made up the major part of a recent district conference program which Virginia county, district, and State extension workers feel was one of the most stimulating and helpful they have had. It was held at Richmond, Va., January 27-30. Names of some 30 county agents were on the program and practically all of the remaining agents in the three districts represented availed themselves of the

opportunity to get information they wanted in the discussions. It was an exchange of experiences with plans and of methods of putting them into effect.

This, the third year Virginia has been working on its five-year agricultural program, was felt to be an opportune time for a discussion of program making. So, after the purpose of the session was outlined briefly by one of the district agents, county plans of work were discussed by the agents of six counties. These men told how they had gone about making a program in their counties, how their local leaders or committee chairmen had been selected, what committees they had found necessary and what specific duties had been outlined for these committees, and how nearly the goals set had been reached. Each man was allowed 15 minutes for his discussion and then subjected to cross-examination by the audience.

Then the presiding district agent suggested that the problems of the agents who had not been able to get their counties to make a definite program for extension work could be talked over with profit. A number of hindering factors were mentioned by agents, answered by any other agents who had found some method which had overcome one or more of the same difficulties in their counties.

The portion of the county program carried out through farm boys' and girls' clubs was discussed in the same way, first by accounts from several agents of methods they had found successful, followed by the presenting of difficulties or failures by others, and an exchange of experiences on these points.

What kind of demonstrations and what uses of these demonstrations had been most effective in establishing good crop practices for the sections represented, received the same treatment. Special phases of the various lines of crop and livestock work in the five-year agricultural program to be emphasized during the year, presented by the specialists in these lines, completed a conference that was, literally, a conferring together.

A prize was offered to the farmer who could pick out the ears of corn which would germinate from an exhibit at the January, 1924, county seed-corn show, the county agent of Weld County, Colo., reports. No one succeeded in getting them all right, the average guesses being about 53 per cent correct. This was one means of calling attention to the importance of testing seed corn, particularly in such as 1924, when early freezes in the county had made germination low. Over 180 samples of seed were tested there last year.

BRIEF REVIEWS OF NEW BULLETINS

A Bibliography Relating to Soil Alkalies. Compiled with special reference to the deleterious action of soil alkalies and various other chemical agents on cement and concrete. Compiled under the direction of Samuel H. McCrory, chief, division of agricultural engineering. By Forest V. King, drainage engineer. Guy Ervin, assistant irrigation engineer. O. Louise Evans, assistant librarian, Bureau of Public Roads. Pp. 40. February 17, 1925. (Department Bulletin 1314.) Price, — cents.

In connection with an investigation by the Bureau of Public Roads of the department concerning the effect of soil alkalies on concrete drain tile, a great many reference publications and articles were located. Believing that a compilation of these references into bibliographical form would be of great advantage to other investigators, the list was published in this bulletin. The bibliography is believed to be fairly complete in respect to articles published prior to 1924.

Seed Flax as a Farm Crop in 1925. By A. C. Dillman, associate agronomist, United States Department of Agriculture, A. C. Army, associate agronomist, Minnesota Agricultural Experiment Station, Clyde McKee, agronomist, Montana Agricultural Experiment Station, T. E. Stout, assistant agronomist, North Dakota Agricultural Experiment Station, and A. N. Hume, agronomist, South Dakota Agricultural Experiment Station. Pp. 14. February, 1925. (Department Circular 341.) Price, — cents.

From 1909 to 1921 flaxseed production in the United States decreased both in total quantity and in proportion to consumption. In the last three years of that period production was scarcely one-third of our requirements. The relatively low price of wheat in 1921 and 1922 and the recognized need for diversification in the spring-wheat belt led to an increase in the acreage of flax, beginning in 1922. Without regard to any effect of the wheat situation, seed flax has been a profitable crop during the past three years. This bulletin describes the present situation, the 1925 flax crop in Minnesota and North Dakota, and discusses it as a crop for Montana and South Dakota in 1925.

ADDITIONAL PUBLICATIONS

The Agricultural Outlook for 1925. Prepared by the staff of the Bureau of Agricultural Economics. Pp. 24. February, 1925. (Miscellaneous Circular 38.) Price, 5 cents.

Crop Report Regulations. Prepared by the Bureau of Agricultural Economics. Pp. 4. January 28, 1925. Miscellaneous Circular 37.) Price, 5 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 213. January, 1925. Pp. 10. February, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the weeks of February 9-21, 1925. Copies of these publications may be obtained from the stations issuing them.

Growing and handling asparagus crowns. By A. Jones and W. W. Robbins. (California Sta. Bul. 381, pp. 34, figs. 15. Dec., 1924.) Pumping for drainage in the San Joaquin Valley, California. W. W. Weir. (California Sta. Bul. 382, pp. 38, figs. 18. Jan., 1925.)

A study of the relative values of certain succulent feeds and alfalfa meal as sources of vitamin A for poultry. D. E. Davis and J. R. Beach. (California Sta. Bul. 384, pp. 14. Mar. [Feb.], 1925.)

Apple storage investigations. Fourth progress report. L. Jonathan-spot and soft-scan. II. Apple-scan and internal breakdown. H. H. Plagge and T. J. Maney. (Iowa Sta. Bul. 222, pp. 64, figs. 16. Oct., 1924.)

Rural social survey of Hudson, Orange, and Jessup consolidated school districts. Blackhawk and Buchanan Counties, Iowa. G. H. Von Tugela and H. L. Bells. (Iowa Sta. Bul. 224, pp. 201-251, figs. 21. Nov., 1924.)

Soft cheeses that are easily made. E. F. Coss. (Iowa Sta. Circ. 94, pp. 7, figs. 6. Oct., 1924.)

Tax revision in Kansas. E. England. (Kansas Sta. Bul. 234, pp. 95, figs. 8. Dec., 1924.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, Jr. (Massachusetts Sta. Met. Bul. 433, pp. 4. Jan. 1925.)

Profitable pruning of the Concord grape. N. L. Partridge. (Michigan Sta. Spec. Bul. 141, pp. 12, figs. 10. Jan., 1925.)

Agricultural Experiment Station, thirty-second annual report.—Part I, Publications. List of projects, financial statement, and staff members, July 1, 1923, to June 30, 1924. W. C. Coffey. Pp. 38.

The change of form with age in the dairy cow. S. Brody and A. C. Ragsdale. (Missouri Sta. Research Bul. 67, pp. 48, figs. 40. Sept., 1924.)

Normal immunity reactions of the cow and the calf with reference to antibody transmission in the colostrum. J. B. Nelson. (Missouri Sta. Research Bul. 68, pp. 30. Aug., 1924.)

The effect of the sugar content in the manufacture of commercial ice cream. H. H. Reid. (Missouri Sta. Research Bul. 69, pp. 15, figs. 5. Sept., 1924.)

Economic studies of dairy farming in New York.—II, Grade A milk with and without cash crops. E. G. Misner. (New York Cornell Sta. Bul. 433, pp. 147, figs. 19. Oct., 1924.)

Results of experiments with oats in New York. H. H. Love and W. T. Craig. (New York Cornell Sta. Bul. 436, pp. 24, figs. 8. Jan., 1925.)

Commercial fertilizers, 1925 edition. R. H. Robinson. (Oregon Sta. Circ. 58, pp. 20. Jan., 1925.)

Feeding cocoa meal to dairy cows. H. B. Ellenberger and J. A. Newlander. (Vermont Sta. Bul. 243, pp. 20, figs. 2. Dec., 1924.)

Infectious abortion (fifth report). G. C. White, L. F. Rettger, and J. G. McAlpine. (Connecticut Storrs Sta. Bul. 123, pp. 281-303, figs. 2. Aug., 1924.)

Corn in Connecticut. D. F. Jones, W. L. Slate, Jr., and B. A. Brown. (Connecticut Storrs Sta. Bul. 124, pp. 309-396, figs. 83. June, 1924.)

Spraying calendar. W. C. Dutton, R. H. Pettit, C. W. Bennett, and H. A. Cardinell. (Michigan Sta. Spec. Bul. 140, pp. 29, figs. 11. Jan., 1925.)

The present outlook for the poultry man. G. W. Hervey and C. S. Platt. (New Jersey Sta. Hints to Poultry Men, vol. 13. No. 5, pp. 4, figs. 3. Feb., 1925.)

The agricultural regions of North Dakota. R. E. Willard. (North Dakota Sta. Bul. 183, pp. 168, figs. 64. Dec., 1924.)

The influence of individuality, age, and season upon the weights of fleeces produced by Angora goats under range conditions. J. L. Lush and J. M. Jones. (Texas Sta. Bul. 320, pp. 54, figs. 13. Mar., 1924.)

Lamb-feeding experiments at the Irrigation Branch Experiment Station in 1922-23 and 1924. H. Heckorn, R. P. Best, and J. Sotola. (Washington Col. Sta. Bul. 185, pp. 42, figs. 5. Nov., 1924.)

Thirty-fourth annual report for the fiscal year ended June 30, 1924. E. C. Johnson. (Washington Col. Sta. Bul. 187, pp. 111. Dec., 1924.)

Varietal experiments with wheat, oats, barley, rye, and buckwheat (a preliminary report). R. J. Garber, K. S. Quisberry, T. E. Odland, and T. C. McVain. (West Virginia Sta. Bul. 192, pp. 26, figs. 4. Dec., 1924.)

CIVIL-SERVICE ANNOUNCEMENTS

Supervisor of seed-loan collections, \$4,200. A vacancy under the Department of Agriculture for duty at Albuquerque, N. Mex., at \$4,200

a year, with advancement in pay without change in assignment to \$4,500 a year, and vacancies in positions requiring similar qualifications, will be filled from this examination. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes March 31, 1925.

Junior chemist in forest products, \$1,860. Vacancies in the Forest Products Laboratory of the Department of Agriculture, Madison, Wis., and vacancies in positions requiring similar qualifications throughout the United States, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes March 14, 1925.

PINES FOR PROFIT RELEASED

Reasons for replanting the devastated forest lands of the Coastal Plains areas of the Southern States and approved methods of planting are shown in the new department educational film release, *Pines for Profit*.

The picture traces the depletion of the forests of the South from the establishment of Jamestown in 1607 to the present day, when more than 30,000,000 acres of cut-over timber lands scar the landscape of the States below the Mason and Dixon line. The practicability of reforesting this area and providing permanent prosperity by means of a constant timber crop are pictured. Details of reforestation, such as nursery practices, broadcasting of pine seed, setting out young trees, and wood-lot management, are included. A warning against fire, the greatest of all menaces to reforestation, is sounded.

The picturization of kinds of land that should be devoted to reforestation is another feature of *Pines for Profit*. The film was photographed in the Coastal Plains States from South Carolina to Texas and is a contribution from the Forest Service cooperating with the Georgia Forestry Association, the Florida Forestry Association, and the State Forestry Commission of Alabama.

Specifications for tentative grades for alfalfa, Johnson, and wild hay have been drawn by the Bureau of Agricultural Economics and copies soon will be available for distribution to those interested. These tentative grades are to be used as a basis for discussion at twenty-five to thirty hearings to be held at the principal markets and in producing areas where these hays are of particular interest. It is expected that the first hearing will be held in the South beginning about March 9.

PRINCIPAL LIBRARY ACCESSIONS

DOMESTIC ANIMALS AND VETERINARY MEDICINE

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HORTICULTURE

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BOYS' AND GIRLS' CLUBS IN FILM

"A Crop Worth Saving," a four-reel picture among current film releases of the department, is the most detailed of films issued thus far on phases of boys' and girls' club work. Made in the Acadian section of Louisiana, where club work is exceptionally far advanced, and where live oaks and Spanish moss everywhere lend themselves to the making of pictorial compositions, "A Crop Worth

Saving" is not only a good exemplification of the development of club work, but a beautiful picture from the purely scenic standpoint.

A simple story runs through the picture, the story of two boys and a girl who take up club work and realize the benefits to be derived therefrom. One of the boys wins a prize scholarship to the State short course, and thus opportunity is given to show in considerable detail the work of the club short course at Baton Rouge, where a thousand boys and girls assemble each year for a week's intensive study in agriculture and home-making.

Incidental interest attaches to this picture because two of the leading characters are assumed by descendants of Louis Arceneaux, the original of the "Gabriel" of Longfellow's "Evangeline."

"DUAL-PURPOSE TREES"—NEW FILM

The long-leaf or southern pine, long the inspiration of the poet and the lyricist, now plays a dual rôle on the motion-picture screen. This great lumber tree "doubles" as a provider of turpentine and rosin in a new department educational film, Dual-Purpose Trees.

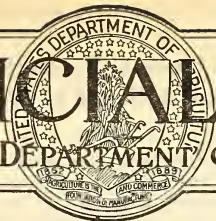
The picture, designed to instruct turpentine operators in scientifically developed and efficient methods of turpentine—methods that will enable operators to obtain a maximum of "gum" with least damage to the tree—presents a picturization of the naval-stores industry. From the cutting of the first "streak," it goes through the dipping of the cups and the gathering of the gum and its delivery at the still, "skimming," and "drawing the charge" and the various steps in distillation, to the filling of the rosin and spirit barrels.

Scenes include the factor's yards at Savannah, Ga., and Jacksonville, Fla., the largest of their kind in the world. Here enormous quantities of American naval stores are stored and loaded aboard vessels destined for ports in every part of the world.

More than three-fourths of the world's supply of turpentine and rosin comes from the pine forests of our Southern States and a plea for scientific management of turpentine forests, and reforestation of the cut-over and burned-over forest lands of the South as a means of assuring the future of this great American industry, is made in the film. The picture was photographed in Georgia, Alabama, Florida, and Louisiana. It is a contribution from the Forest Service, cooperating with the Georgia Forestry Association and the State Forestry Commission of Alabama, and is one reel in length.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MARCH 11, 1925

No. 10

CREDIT BILL PASSED TO AID CATTLE RAISERS

Gives Rediscount Privilege to Loan Companies Under United States Charter

Two bills dealing with subjects referred to in the report of the President's Agricultural Conference were passed by Congress and signed by the President just before the 68th Congress closed.

One of them was a measure (S. 3632) amending the Federal farm loan act and the agricultural credits act of 1923. Among other provisions it contains a clause giving agricultural credit corporations chartered by the United States Government the same privilege to rediscount paper with the Federal intermediate credit banks as is now given to institutions chartered under State laws.

This legislation was recommended by the conference to foster the organization in livestock territory of properly capitalized livestock loan companies. The conference suggested that an adequate number of soundly organized, adequately capitalized, and properly managed loan companies, operating under Federal supervision and enjoying access to the rediscount resources of the Federal intermediate credit banks, would improve the credit facilities of the breeding end of the livestock industry.

Livestock Grazing Bill

The other bill deals with livestock grazing in national forests. On this question the conference recommended that the unappropriated public domain should be placed under lease, and that there should be a uniform policy agreed on for the administration of grazing on public lands and in national forests. It urged that until a uniform plan of leasing is agreed on there should be no increase in the fees charged for grazing in the national forests.

Congress passed, and the President signed, a resolution (S. J. Res. 375) au-

thorizing the Secretary of Agriculture, in his discretion, to waive any part of or all requirements in respect to grazing fees for the use of national forests in drought-stricken regions during the calendar year 1925 or any part of such calendar year. An announcement had already been made by the Secretary of Agriculture that there would be no increase in the grazing fees to be charged on the national forests for the years 1925 or 1926.

An appropriation to carry out a third measure recommended by the conference, the Purnell bill authorizing the more complete endowment of agricultural experiment stations, was provided in the second deficiency appropriation bill which was signed by the President on March 4. This appropriation amounts to \$960,000 and is for the fiscal year 1926.

Various Bills and Resolutions

Other measures which received the President's approval were:

A bill (S. 4156) to establish a forest experiment station in California and adjacent States.

A resolution (S. J. Res. 130) providing for the participation of the United

(Continued on page 5)

SECRETARY JARDINE ASSUMES DUTIES

Secretary William M. Jardine took up his work in the department on March 5 with the good wishes of the thousands of workers now under his direction and of other persons in all parts of the country. Dr. Jardine was sworn in by R. M. Reese, chief clerk of the department, at 11 a. m. The Secretary's office was crowded with bureau chiefs and other department people and a number of Senators and Congressmen, including practically all of the Kansas delegation. Several of the new Secretary's intimate friends also were there to offer their good wishes.

Readers of The Official Record may expect a statement from Secretary Jardine in an early issue.

SOURCE OF FOWL PEST IN INTRODUCED VIRUS

Bureau of Animal Industry Finds Disease Studied in Sev- eral Laboratories

The probability that the outbreak of the European fowl pest last December among poultry in certain Eastern States was the result of the introduction of virus from Europe by a well-meaning scientist working on filterable viruses, has been suggested by Dr. J. R. Mohler, chief of the Bureau of Animal Industry. Dr. Mohler said there is a possibility of some other source of infection, but emphasized the fact that the only known introduction of the virus of this disease was made in this manner. The fact that practically all of the cases of European fowl pest have been found in or traced to States in or near where this virus was used is the basis for reasonable suspicion that this was the source of the outbreak.

Disease Unknown in U. S. Prior to 1923

The virus of this very contagious disease was previously unknown in this country although well known in Europe. The introduction of virus was made from the Pasteur Institute of France by an American investigator in the summer of 1923. About a year ago this man gave some of it to an investigator in another university in the East and later a second sample was distributed. It also has been brought out that an assistant to the man who introduced the virus from Europe took some of it with him to his father's home last summer and inoculated chickens in order to maintain a supply of live virus for continuing investigational work in the fall. He inoculated chickens in June, July, August, and September. It has also been learned, said Dr. Mohler, that a firm of poultry dealers in New York City has regularly purchased poultry from at least one of the institutions carrying on investiga-

tions with this highly contagious disease. Another fact bearing on this case is that one of the men studying European fowl pest sent virus to another institution in a clean State for use in producing lesions in chickens for the purpose of subsequently illustrating a lecture on the disease.

The fact that all the evidence thus far available shows that the disease first appeared in the Eastern States indicates the unreasonableness of the embargoes placed in the East against States far removed from infected areas. In some cases embargoes have been placed against States 1,500 miles from infected districts.

Rigid Quarantine Regulations Maintained

In connection with this case, it is important to know that the department, in its efforts to protect the animal industry of the country, does not permit the importation of animals from countries having destructive animal diseases not present here. It is also against the policy of the department to experiment in this country with such diseases. No experimental work has been carried on with foot-and-mouth disease because of the great danger to the American livestock industry. Some other States have regulations against experimenting with such diseases and notably the State into which the original introduction of this virus was made. Congress recently provided in the general deficiency bill \$75,000 for the use of the Bureau of Animal Industry in carrying on such investigations in Europe where foot-and-mouth disease exists at all times.

"We can only surmise," said Dr. Mohler, "what losses we have escaped through the consistent enforcement of our rigid quarantine regulations. Furthermore, it seems from past experience in this and other countries that the place to study dangerous foreign pests and diseases is in the countries where they exist and not in laboratories here where there is a potential danger that they may escape to do great damage to our animal industry."

ANNUAL AMARYLLIS SHOW OPENS

The twelfth annual amaryllis show of the department opened in the agricultural greenhouse at Fourteenth and B Streets NW., during the week of March 9. Approximately 1,100 plants, selected from more than 1,500 in the department's collection, are there in full bloom. The blossoms, of which there are about 10,000, range in color from pure white to a deep, rich red. Development of a large number of the lighter shades has been quite successful.

Science Classes of Wichita High School Addressed by Dr. Elwell

Student classes of the science department of the high school, Wichita, Kans., were recently addressed by Dr. F. N. Elwell, inspector in charge of virus-serum control work of the Bureau of Animal Industry in that district. Doctor Elwell addressed a number of science classes, including those of biology and physiology, consisting of about 1,000 students and several teachers, by special request of the Wichita Federal Business Association.

The procedure of preparing and inspecting the several serums, viruses, and other biological products was explained to the classes and occasion taken to call attention to the many ways in which the activities of the Department of Agriculture touch upon the lives of all people. Stress was placed upon the fact that service to all citizens is the object and stimulus behind inspectional activities as it is with investigational and other lines of work of the department.

Immunity, sanitation, and sterility were explained to the students and teachers as fully as time would permit, as were the several uses of biological products intended for both man and animals. Authority under which these products are inspected and licensed in each instance was cited.

The teachers who heard Doctor Elwell expressed themselves as highly pleased with his presentation of the subject, and stated that the information he gave was what they desired the science classes to have.

VISITOR FROM NORWAY AT DEPARTMENT

Miss Mathilde Christiansen, a teacher of home economics in Norway, spent the week of March 2 visiting the laboratories of the Bureau of Home Economics. She has come to this country particularly to study experimental kitchens and the testing of household equipment with a view to establishing scientific research of this kind in Norway. The development of electric power in that country from the abundant natural sources has created great interest in electric labor-saving devices for the home, and Miss Christiansen hopes that the Norwegian Government will make it possible to conduct demonstrations of their value. Though familiar with laboratory research in nutrition, through the excellent work done in Norway, as well as through a year at King's College, London, she was sur-

prised and greatly interested by the popularizing of such research through the cooperative extension work of the department, the nutrition service of the American Red Cross, and similar agencies. From Washington Miss Christiansen goes to New York to observe methods at Teachers College, Columbia University, and at Pratt Institute, then to Simmons College in Boston, from there to study the home economics work at the University of Chicago, and on to the Pacific Coast, returning to New Orleans to sail in June for Norway.

FORECAST "FLYING WEATHER"

The establishment of a regular pilot balloon station at Memphis, Tenn., and another at Curacao, Dutch West Indies, through cooperation with the Dutch Government, are the only recent expansions of the aerological investigation division of the Weather Bureau. Both kite and pilot balloon observations are made regularly at Broken Arrow, Okla.; Drexel, Nebr.; Due West, S. C.; Ellendale, N. Dak.; Groesbeck, Tex.; and Royal Center, Ind. Kite flights are made daily wherever possible. In addition, when conditions are favorable, continuous series of flights are made for periods of 24 to 36 hours. The altitudes reached average 3,000 meters above sea level, but many reach 5,000 meters or higher. Records of air pressure, temperature, humidity, and wind are thus obtained.

Morning and afternoon observations are made at these six stations by means of pilot balloons, and at Key West, Fla., and Washington, D. C. Other observations are made in Vermont, Colorado, New York, Michigan, Wisconsin, Tennessee, California, and San Juan, P. R. From these observations the wind conditions at various heights are telegraphed to district forecast centers at Washington, Chicago, and San Francisco, where they form the basis for "flying weather" forecasts issued to the military, naval, and postal aviation services. Special observations are made and telegraphed when requested for use in connection with long-distance airplane flights, free-balloon races, and other needs. Active cooperation is maintained with the Army and Navy meteorological services, which also maintain a number of pilot balloon stations.

During 1923 over 9 per cent of the total revenue of the first-class railroads of the country was received from forest products. The total revenue received from this source was \$419,807,000.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

1924 CHICKEN PRODUCTION HEAVY

Some 678,300,000 chickens were produced in the United States last year, which was 29,400,000 more than in 1923, according to estimates just released by the department. Despite this increased production there were on farms January 1, 1925, approximately 427,000,000 chickens as compared with 470,300,000 on January 1, 1924. The decrease in stocks on hand January 1 is attributed to increased consumption, and to larger stocks going into storage.

FEDERAL GRADES FOR COTTON LINTERS

Seven tentative grades for cotton linters have been prepared by the department for promulgation as official standards possibly in time for the 1925-26 crop. The tentative grades are put up in boxes similar to those used in the preparation of standard cotton grades. Each box contains 12 samples, the linters produced in each section of the Cotton Belt being represented by four samples.

FARMER LIVESTOCK AGENCIES ACTIVE

The rapid growth of farmer-controlled cooperative livestock sales agencies during the past few years, and the tremendous volume of business being done by these organizations are brought out in figures just compiled by the department. It is estimated that the 27 organizations of this type operating in 20 of the leading terminal livestock markets of the country handled business in 1924 amounting to approximately \$235,000,000. Over 12,000,000 animals were received and sold or were bought for farmers desiring feeder stock. Savings to growers in commission charges alone totaled approximately \$1,000,000.

HOW TO ORGANIZE A FARM

Suggestions for the organization of farms are made in a preliminary report now being mimeographed by the Bureau of Agricultural Economics, entitled "An organization system for farms in northeastern Montana." Based on this report, together with deductions from the Agricultural Outlook Report for 1925, a report on "The effect of the agricultural outlook on the organization system for farms in northeastern Montana" has

also been prepared. Similar reports concerning southeastern Montana will soon be forthcoming.

LARGE AMERICAN WOOL CLIP IN 1924

The American wool clip for 1924 was 238,530,000 pounds of fleece wool and 43,800,000 pounds of pulled wool, according to estimates of the department based on the revised estimate of the number of sheep at the beginning of 1924. The clip in 1923 was 224,330,000 pounds of fleece wool, and 42,500,000 pounds of pulled wool.

STUDY ODORS ATTRACTING BOLL WEEVIL

An effort to discover an attractor for the boll weevil, which, if found, may be used in some way toward control, is being made by the Bureau of Entomology in cooperation with the Bureau of Chemistry. The weevil attacks only the cotton plant, and probably is attracted by some odor peculiar to it. Considerable progress has been made, following the distillation of several tons of cotton plants in identifying the volatile substances present. Certain odorous constituents of the plant have already been isolated in the laboratory which give definite indications of slight attraction for the weevil, and extensive laboratory and field tests are under way with these substances in the effort to ascertain how they can be most effectively used.

"COOPERATIVE MARKETING—COTTON"

The cooperative activities of a quarter of a million cotton growers of the South are illustrated in a two-reel film just released by the department entitled "Cooperative Marketing—Cotton."

This picture, made for the Bureau of Agricultural Economics by the Office of Motion Pictures, follows the bale of the member of the marketing association from the gin, down through the various channels of the cooperative organization, until it is sold and delivered for manufacture in a domestic mill for shipment abroad. In the beginning of the picture John Smith is shown delivering his bale for shipment to his association warehouse; at the close he is shown getting a check in final settlement for the season. Meanwhile the bale has gone through warehouse and compress to the mill, and its sample, as well as the little coupon from its tag, have gone through the sample rooms and accounting rooms of the association's State offices.

Scenes for this picture were made in Tennessee, Texas, Georgia, and North Carolina. Scenes illustrative of the ac-

counting offices of the association were made in Dallas, Tex., and in Atlanta, Ga. Sample-room scenes were made in Houston, Tex., and a series of scenes illustrative of the activities of the interstate organization of the association, the American Cotton Growers' Exchange, were made in Memphis, Tenn.

GUARD AGAINST IMPORTING DISEASES

The painstaking care taken by Federal veterinary officials to exclude animal diseases from abroad is shown in the close supervision over numerous commercial products. While all possible avenues of danger to the livestock of the United States have received regular inspection, additional safeguards are being added. For instance, fragile articles, such as china and bric-a-brac imported in large quantities, require careful packing, and for this purpose it has been customary in the past to use hay and straw. It is considered that such packing material, when originating in a country where foot-and-mouth disease exists, may carry infection; consequently official regulations require the destruction of foreign packing material of that sort upon arrival from an infected country unless accompanied by certificates of approved disinfection issued by American consular officers in the country of origin.

But as a further means of tightening the quarantine against animal diseases from abroad, the Bureau of Animal Industry reports success in efforts to have hay and straw replaced by packing of nonagricultural origin. Many importing firms, says the bureau, have arranged with shippers in foreign countries to use excelsior and paper for packing. Imported hides and skins receive thorough disinfection and every possible precaution is taken in connection with the importation of animal by-products and feeding materials. The Treasury Department and other branches of the Government having to do with imports are co-operating with the Bureau of Animal Industry in its work of excluding animal contagion.

The influence of community organizations in promoting the breeding of better livestock is shown in frequent reports received by the department in connection with its work in encouraging the use of purebred sires. The president of the Middlesex County (Conn.) Farm Bureau reports the introduction of 30 registered dairy bulls within six months for use in improving local herds and adds that "none of our farmers is inclined to revert to grade or scrub sires."



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Secretary Gore Leaves To Become Governor

Secretary of Agriculture, Howard M. Gore, left the President's Cabinet March 4, and on that day was inaugurated Governor of West Virginia. His letter of resignation and President Coolidge's letter of acceptance follow:

FEBRUARY 13, 1925.

MY DEAR MR. PRESIDENT:

I have the honor to inform you that upon March 4 next, at 12 o'clock noon, I am to assume the duties of Governor of the State of West Virginia. This requires that I tender my resignation to you as Secretary of Agriculture, effective on that date.

I am deeply grateful for the opportunity which you have made available to me to serve my country. The relationship with you and my associates that I have had the privilege to enjoy will be an inspiration to me always.

I return to my native State with an abiding faith in the sturdy citizenry and institutions of this great Nation.

With greatest respect,

HOWARD M. GORE.

THE PRESIDENT,
The White House.

THE WHITE HOUSE,
Washington, February 25, 1925.

MY DEAR MR. SECRETARY:

I have your resignation recently tendered to take effect on March 4th, at 12 o'clock, and for reasons which you know I am accepting it. I should be very much pleased if your commitment to the service of your people in West Virginia had not made it impractical for you to remain as Secretary of Agriculture. I wish to assure you of the great satisfaction that I have felt in the character of your services. I feel that your State is most fortunate in having you for its chief executive.

With kindest regards and best wishes, I am

Very truly yours,

(Signed) CALVIN COOLIDGE.

Hon. HOWARD M. GORE,
Secretary of Agriculture,
Washington, D. C.

Executives in the department gave a luncheon last week in honor of Secretary Gore. The luncheon was held at the Hotel Hamilton and was attended by chiefs and assistant chiefs of the

different bureaus and independent units of the department, about 50 in all.

DR. E. D. BALL RESIGNS

Dr. E. D. Ball, director of scientific work in the department, tendered his resignation to Secretary Jardine some two weeks ago, the resignation taking effect March 4.

Speaking of Secretary Jardine, Doctor Ball stated that he was exceptionally well equipped to take the leadership of the Department of Agriculture. His years of service in the department gave him a very broad knowledge of the agriculture of the whole Nation and his later experience in directing research and as president of the Kansas State Agricultural College has demonstrated his ability to build up the highest type of a research organization. Doctor Ball said that during a recent visit to that college he found the entire faculty enthusiastic and loyal in their support of the institution and its administrative officers. The spirit of research and progress appeared to be almost universal.

"The development of research work and the betterment of the condition of the scientific workers in the department should progress rapidly under Secretary Jardine's administration," said Doctor Ball. "I feel, however, that he will be able to accomplish more in the way of agricultural leadership and in bringing about harmony and cooperation between the different Government departments if he is given the freest opportunity to select for his immediate associates those who have not been in any way connected with previous policies or controversies."

Doctor Ball stated that his interest in the department's work had been in the opportunity it offered for bringing about better salaries and working conditions for the scientific workers and encouragement of the research work. "The appointment of Secretary Jardine," he said, "makes it certain that this phase of the work will be emphasized and it therefore seems an opportune time to retire and get back into fields closer to research or graduate teaching."

Doctor Ball was graduated from Iowa State College in 1895 with the degree of B. S. Three years later he received his M. Sc. degree from the same institution. In 1907 the Ohio State University conferred upon him the degree of Ph. D. After teaching in several western agricultural colleges, he became State entomologist of Iowa in 1918, which position he held until becoming Assistant Secretary of Agriculture in June, 1920. In October, 1921, the position of director of scientific work was created and Doctor

Ball was chosen for that office. He is the author of numerous studies on scientific subjects, and a member of several scientific societies, having served as president of some of them.

SECRETARY APPROVES TEA STANDARDS

Standards for tea as recommended by the board of tea experts have been approved by the Secretary of Agriculture and samples of the standards have been forwarded to the different examiners who inspect teas at the ports of entry. These samples will be used by the examiners for judging the purity, quality, and fitness for consumption of teas offered for entry into the United States, and any teas below these standards will not be permitted to come into the country. The standards adopted are for Formosa Oolong to be used for all Oolong teas; Congou to be used for all fully fermented teas; Young Hysen for all China green teas; Japan; Scented Orange Pekoe and Scented Canton.

Standards for tea are fixed every year by the board from samples sent in by the importers. Samples of the standards adopted are now on sale at 30 cents a half pound to importers who use them as a basis of comparison when purchasing abroad teas for sale in the United States.

BUREAU EXHIBITS SEWING MACHINES

Through the cooperation of sewing-machine manufacturers, the textiles and clothing division of the Bureau of Home Economics of the department has arranged for a permanent loan exhibit of the various types of home sewing machines now on the market. Forty-three machines are on display at present, including hand, foot, and motor driven models of all the types now purchasable. This exhibit which is in the Bureau of Home Economics Building at Washington, D. C., gives the general public its first opportunity to study the various makes and models in one collection. Homemakers, professional home-economics workers, or anyone interested in the household types of sewing machines, can now examine them under ideal conditions. These machines will also facilitate the studies on clothing construction now being developed by the bureau. Since the best help of the woman who sews at home comes from the sewing machine and its attachments, it is the purpose of the bureau to determine just how much assistance is available from this source and to encourage her to use it to the best advantage.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is the mold in Roquefort cheese? Under what condition does it develop properly?

Answer. The mold in Roquefort cheese is a form of plant life known as *Penicillium Roqueforti*, which develops in almost pure culture from spores added to the cheese during the manufacturing process. The mold in Roquefort develops properly when the cheese contains approximately 40 per cent water and 4 per cent salt, and when it is cured at low temperatures with high relative humidities, and with sufficient oxygen reaching the mold as a result of piercing the cheese.

Question. What are the five leading farm crops in the United States from the standpoint of their annual value?

Answer. In 1924 the five leading farm crops in the United States were corn, cotton, hay, wheat, and oats, in the order named. The farm values of the different crops reported on are as follows:

Corn, \$2,405,468,000; cotton, \$1,487,225,000; hay, \$1,467,648,000; wheat, \$1,136,596,000; oats, \$739,495,000.

Question. Does the Bureau of Public Roads still have surplus war material to distribute? If so, of what type is it?

Answer. Yes. The Bureau of Public Roads is distributing such material as steel buildings, parts for automobile trucks and tractors, road-building machinery, engineer and shop tools, rail and structural steel, explosives and miscellaneous materials.

REPORT ON BETTER-SIRES WORK

Forty counties in nine different States are listed in a report just issued by the Bureau of Animal Industry for conspicuous activity in livestock improvement under the better-sires plan. All the counties have 100 or more farmers who have signed written agreements stating that they will use purebred sires exclusively for all kinds of livestock raised. The active work of "signing up" the stock owners for this constructive program of improvement was done chiefly by county extension agents.

Of the 40 counties on the honor list at the close of 1924, as shown by the

new report, the following 10 had more than twice the required number of purebred-sire users:

County	County agent	Persons enrolled
Pulaski, Va.....	E. G. Grigsby.....	592
Union, Ky.....	S. C. Brewer.....	457
Rockingham, Va.....	Chas. W. Wampler.....	384
Greene, Ohio.....	Ford S. Prince.....	359
Oldham, Ky.....	Gordon B. Nance.....	248
Upshur, W. Va.....	H. G. Sturm.....	241
Hardin, Ohio.....	F. S. Hagy.....	236
Defiance, Ohio.....	Jesse E. Whonsetler.....	222
Miami, Ohio.....	C. M. Senn.....	222
Addison, Vt.....	Francis R. Churchill.....	211

Kittitas County, Wash., with 198 persons enrolled lacked just 2 of qualifying for a place in the foregoing list. In addition to the States mentioned in the list, others which include counties especially active in better-sires work are: Nebraska, Oklahoma, South Carolina, and Washington.

BIOLOGICAL SURVEY GATHERS FUR DATA

In collaboration with the National Association of the Fur Industry, it is planned to gather statistical information in the Biological Survey pertaining to fur-bearing animals. The headquarters of the work will be in the office of the division of fur resources of the bureau, and Frank G. Ashbrook, head of the division, will be in general charge. Horace McMullen, of the national association, is assisting Mr. Ashbrook in gathering and assembling fur statistics. The scope of the work has not been completely mapped out as yet, but it will be the general purpose to gather all information considered to be of value to conservationists and the fur trade. On the basis of the data assembled it is likely that recommendations will be made to State conservation commissioners throughout the country for desirable modifications in legislation affecting trapping, with a view to conserving fur animals and stopping wasteful practices.

CREDIT BILL PASSED TO AID CATTLE RAISERS

(Continued from page 1)

States in an international exposition to be held at Seville, Spain, in 1927.

A bill (H. R. 5939) to facilitate the work of the Forest Service and to promote reforestation.

A resolution (S. J. Res. 184) authorizing the President to invite the States of the Union and foreign countries to participate in a permanent international trade exposition at New Orleans to begin September 15, 1925.

A bill (H. R. 7269) directing the Secretary of War to transfer certain materials, machinery, and equipment to the Department of Agriculture.

A resolution (H. J. Res. 325) extending the time during which certain domestic animals that have crossed the boundary into foreign countries may be returned duty free.

A bill (H. R. 12192) authorizing the creation of game refuges on the Ozark National Forest in Arkansas.

The second deficiency appropriation bill for the fiscal year 1925 was passed by Congress and approved by the President on March 4. It provides for the Department of Agriculture a total of \$2,343,700 in new funds, of which, however, \$960,000 goes to the State agricultural experiment stations under the provisions of the Purnell Act, and extends the availability of balances from certain appropriations provided in prior years. The items relating to the work of this department are as follows:

Office of Experiment Stations:

To carry into effect, during the fiscal year 1926, the provisions of the Purnell Act of February 24, 1925, authorizing the more complete endowment of agricultural experiment stations, \$960,000.

Extending the availability until June 30, 1926, of the \$8,000 appropriation provided by the deficiency act of December 5, 1924, for the control of coconut scale on the island of Guam.

Bureau of Animal Industry:

Increasing the authorization from \$1,000 to \$4,948 payable from the animal husbandry appropriation for 1925 for expenses in connection with the distribution of medals to prize winners at the International Livestock Exposition held at Chicago in December, 1924.

Authorizing the use of \$75,000 of the \$3,500,000 appropriation provided by the deficiency appropriation act of December 5, 1924, for special researches concerning foot-and-mouth disease, this sum to remain available until June 30, 1926.

Bureau of Dairying:

Authorizing the use of \$13,100 of the appropriation for general expenses, Bureau of Dairying, fiscal year 1925, for the purchase of additional land adjoining the Beltsville (Md.) experimental farm.

Authorizing the use of \$4,500 of the \$12,000 appropriation for the Woodward (Okla.) field station, provided by the agricultural appropriation act for 1925, for the erection of buildings.

Bureau of Plant Industry:

For special sugar-cane breeding investigations, to remain available until June 30, 1926, \$31,000.

For special investigations of alfalfa diseases to remain available until June 30, 1926, \$10,000.

Forest Service:

For fighting and preventing forest fires, fiscal year 1925, \$1,335,000.

For payment of expenses incurred during the fiscal year 1924 for fire protection on the so-called Coos Bay Wagon Road lands in Oregon, \$7,700.

Extending until June 30, 1925, the availability of the balance of the \$125,000 appropriation provided by the deficiency act of December 5, 1924, for forest fires.

Authorizing the use of \$10,000 of the unexpended balance of the \$150,000 appropriation provided by the deficiency act of December 15, 1921, for the prevention of losses of timber from insect infestations on public lands in Oregon and California, this sum to remain available until June 30, 1926.

Bureau of Biological Survey:

Extending the availability of the appropriation of \$85,095, carried in the

agricultural appropriation act for 1926, to cover the administration of the Alaska game law of January 13, 1925, during the fiscal year 1926.

Forest Roads and Trails:

Authorizing the Secretary of Agriculture to apportion among the several States, Alaska, and Porto Rico the sum of \$7,500,000, authorized by the act of February 12, 1925, to be appropriated for forest road and trail construction during the fiscal year 1926, and to incur obligations, approve projects, and to enter into contracts for carrying out the work under said act during the fiscal year 1926.

Miscellaneous:

The bill also contains items aggregating \$742.18 in payment of claims by private individuals for losses sustained in connection with the activities of the Department of Agriculture.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

COOPERATION AVERTED CALAMITY

A national calamity, in which several bureaus of the department figured prominently, was averted and several lessons in the possibilities of cooperation were learned as a result of the livestock drought relief work directed by the department in 1919. The success of that undertaking did much to impress the people of the Middle West and the Northwest with the ability of the department to perform practical and useful service.

During the spring and summer of 1919 the northwestern part of the United States suffered for the third succeeding year from extremely dry weather. Each year had seen an increasing number of livestock shipped out, and the severity of the drought in 1919 caused stockmen to become alarmed. They appealed to the department for assistance. A committee was appointed July 10, from the Bureau of Animal Industry, the States Relations Service, and the Bureau of Markets, which was officially charged with the administration of the relief work. By July 15 a conference of interested persons was called at St. Paul, Minn., which was attended by 200 persons from all sections of the North and West, representing every agency likely to be in a position to assist in the work.

Work was begun immediately to locate available grazing land and hay land which could be harvested by crews from the West, as well as supplies of hay and feed for sale. Approximately 4,000,000 acres of grazing land, with sufficient information to determine its value for cattle and sheep, were listed within a very few days. Requests from farmers in the stock-feeding sections for information pertaining to the purchase of more

than 3,000 cars of cattle and sheep were received. Lists of livestock for sale were assembled by a western branch office of the work and sent to prospective purchasers in the East. Those who wished to purchase hay or other feed or locate grazing lands were put in touch with those having them, and forces in all other sections were kept reliably informed as to conditions in the area affected. The Railroad Administration was prevailed upon to establish special emergency rates in order that western stock might be shipped out to available pasture and returned.

At the time the movement began, in July, decided signs of panic were evident throughout the drought region. In a month's time, however, they had entirely disappeared. No doubt the effort which was being made to avert calamity was having its effect. The first effort of Montana ranchmen was naturally to seek pastures near by. Pastures in South Dakota and Nebraska were therefore filled up early. Later movements were to Minnesota, Wisconsin, and upper Michigan, as well as to Texas and New Mexico, where good grazing conditions had become better than ever before. Normally the movement of cattle out of Montana is between 200,000 and 300,000 head each year. In 1919 it is estimated that between 500,000 and 600,000 head were shipped out for all purposes, which represents a supernormal movement of at least 200,000 head. As nearly as it is possible to estimate, somewhere between 400,000 and 500,000 head of all classes of stock were moved out of the Northwest into sections east and south of the drought area for feed and grazing purposes through the cooperative effort of all forces under the department's leadership.

In addition to this, ranchmen and farmers in the drought area were saved large sums by purchasing feed supplies in quantity, by material reduction in freight rates on feed shipped in and on livestock shipped out, and by the prevention of high prices for feed on account of the careful surveys of local feed supplies which were made by the agricultural extension forces.

This aside from accomplishing actual results in relieving the stockmen in the drought-stricken area and furnishing a striking illustration of the Government's ability to perform a useful service, another lesson may be pointed out. That is that, with proper organization and the dissemination of accurate information, a drought even as severe as this need not be a calamitous one. The United States covers so wide a range of latitude and longitude, and has such a diversity of climate, topography, and rain-

fall, that drought never covers the entire country with equal intensity at one time. It is reasonably safe to assume that a shortage of feed in one section will be counterbalanced by an abundance in some other section.

WITH EXTENSION FORCES

EXTENSION PROBLEMS DISCUSSED

"Opportunities for creating better ways of approaching extension problems and of solving them are by no means exhausted," said A. B. Graham, Office of Cooperative Extension Work, in a discussion of undeveloped opportunities in extension work at a conference of department extension workers and others interested, February 11, in that office.

Disconcerting lack of equipment in the stock of local stores and shops, from which farmers or homemakers might obtain what they need to put into use the practices they have seen demonstrated, could be avoided, said Mr. Graham, in many cases if the confidence of the local merchants were gained and effort made to acquaint all dealers concerned with the type of material proposed for use in advance of the demonstrations so that the dealers might have ample time to obtain any new stock necessary. This opportunity has been developed in a number of instances, such as in efforts to standardize certain crops in a community where local seed dealers made up their stock from the varieties recommended because local leaders or county agent had told them what these varieties were. Stores have carried material in stock for making paper dress forms and similar phases of clothing extension work.

Twenty-six per cent of the rural boys and girls of average club age, that is, between the ages of 10 and 18 years, are not attending school, according to a study recently made of Bureau of the Census records for 1920 by the office of cooperative extension work, in connection with future plans for club activities.

Seventy-four per cent of the negro farmers in Ware County, Ga., produced enough food on their farms last year to supply them until another crop is made, according to a report of the local extension agent, A. H. Hinesman, on the "live-at-home" program he urged in 1924.

BRIEF REVIEWS OF NEW BULLETINS

Forest Planting in the Intermountain Region.

By C. F. Korstian, associate silviculturist, Appalachian Forest Experiment Station, and F. S. Baker, forest examiner, Forest Service. Pp. 57, pls. 7, figs. 7. February 21, 1925. (Department Bulletin 1264.) Price, 15 cents.

This bulletin tells of the difficulties of reforesting the exposed and poorly watered mountain sites of the intermountain region which must be kept wooded to insure continuous and well-regulated water flow for widely extended irrigation systems on the plateaus and in the valleys below. In this region direct seeding has been found to be out of the question. The rigorous conditions which nursery-grown seedlings must endure after transplanting make it imperative that only strong, well-developed, and evenly developed specimens of native species be used. In addition, suitable sites must be carefully selected and much depends on the weather conditions following the planting. Interesting is the conclusion of the report that the sites most essential for reforestation to protect watersheds are those in the high mountains, which are the very sites where relatively heavy stands having the greatest value as timber can be grown.

Aspen in the Central Rocky Mountain Region.

By Frederick S. Baker, forest examiner, Forest Service. Pp. 47, pls. 10, figs. 3. February 20, 1925. (Department Bulletin 1261.) Price, 15 cents.

This bulletin explains in detail the conditions under which the aspen forests of the central Rocky Mountain region are renewed, and makes clear another equally important point, namely, the relation of aspen to the more useful and more marketable conifers. In this region, and at the present time, it appears that conifer forests are to be preferred to aspen, although the situation does not warrant underplanting the aspen with conifers. This feasible but expensive measure is unnecessary in view of the very even balance that is maintained between two kinds of trees. What can be strongly encouraged is the natural replacement of aspen by conifers, through careful and intelligent management of the forests where aspen now predominates. Quite a number of interesting facts regarding aspen management are brought out in this bulletin.

The Bee-Louse, *Braula coeca*, in the United States. By E. F. Phillips, senior apiculturist, in charge of bee culture investigations, Bureau of Entomology. Pp. 12. Feb. 1925. (Department Circular 334.) Price, 5 cents.

A new pest of bees, *Braula coeca* Nitzsch, popularly called the bee-louse, has been found present in considerable numbers in Carroll County, Md., and in a few other places in the United States. It is undoubtedly imported from Europe with queen bees, and while it is not, so far, to be regarded as a serious menace, beekeepers will do well to take steps to eradicate it from their colonies when discovered. *Braula* is not a true parasite, according to the Bureau of Entomology, but it is capable of weakening a bee colony by taking its food and by tormenting the queen bee. It lives on the honey carried by the bees, not on their blood, as was at one time supposed. It is found singly on the workers, and in numbers on the queen bee, but seldom on

drone. This bulletin contains a description of the species, its distribution, feeding habits, and methods of control.

Horses, Mules, and Motor Vehicles. Year Ended March 31, 1924. With Comparable Data for Earlier Years. Prepared by the Bureau of Agricultural Economics. Pp. 95. January, 1925. (Statistical Bulletin 5.) Price, 15 cents.

This bulletin contains figures on numbers of horses and mules on and off farms in the United States, shipments, slaughter, exports, losses from disease, hides and skins, transportation rates, and costs of raising and using the animals. The chapters on tractors, trucks, and automobiles contains figures on production, uses, cost of operation, comparative labor requirements, and general automobile statistics.

ADDITIONAL PUBLICATIONS

Journal of Agricultural Research. Vol. 29, No. 10. November 15, 1924. Contents: Observations on the Mechanism of the Reaction between Formaldehyde and Serum Proteins. (A-79.) By R. R. Henley. A Bacterial Leafspot of *Martynia*. (G-436.) By Charlotte Elliott.—Relation of Sheep to Climate. (H. 20.) By Everett L. Johnson.—Tolerance and Resistance to the Sugar Cane Mosaic. (La-4.) By C. W. Edgerton and W. G. Taggart.—Further Studies on the Relation of Onion Scale Pigmentation to Disease Resistance. (G-438.) By J. C. Walker and Carl C. Lindgren.—Asexual Propagation as an Aid to the Breeding of Rootstocks. (Calif-38.) By Walter Scott Malloch. Pp. 471 to 521, pls. 5, figs. 20. Price, 10 cents.

Journal of Agricultural Research. Vol. 29, No. 11. December 1, 1924. Contents: The Diagnosis of Decay in Wood. (G-417.) By Ernest E. Hubert.—Total Ash Determination in Spices. (A-87.) By A. L. Mehring. Pp. 523-574, pls. 11, figs. 6. Price, 10 cents.

Note.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the *Journal* was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The *Journal* is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 184. Notices of Judgment 12651-12700. Pp. 359-390. February, 1925. Price, 5 cents.

Bureau of Chemistry. Supplement 185. Notices of Judgment 12701-12750. Pp. 391-413. March 5, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files, copies of the following publications of the State experiment stations during the week of February 23-28, 1925. Copies of these publications may be obtained from the stations issuing them.

A discussion of certain Colorado River problems. G. E. P. Smith. (Arizona Sta. Bul. 100, pp. 137-175, fig. 1. February, 1925.) Fertilizer report for 1924. E. M. Bailey. (Connecticut State Sta. Bul. 261, pp. 100. November, 1924.) The Rainbow Forest Plantations.—Guide to experimental plots and report of progress, 1924. H. W. Hicock. (Connecticut State

Sta. Bul. 262, pp. 101-135, pls. 9. December, 1924.) Growing tomatoes for the canning factory. H. D. Brown. (Indiana Sta. Bul. 288, pp. 27, figs. 19. November, 1924.) Interpretation of dairy pedigrees. J. W. Gowen. (Maine Sta. Bul. 318, pp. 53-80, figs. 5. July, 1924.) The blueberry leaf-beetle and some of its relatives. H. C. Fall and W. C. Woods. (Maine Sta. Bul. 319, pp. 81-140, pls. 1, figs. 2. October, 1924.) Commercial fertilizers, 1924. J. M. Bartlett. (Maine Sta. Off. Insp. 113, pp. 37-68. October, 1924.) Marketing Michigan potatoes. J. T. Horner. (Michigan Sta. Spec. Bul. 137, pp. 32, figs. 13. February, 1925.) Root-rots of wheat. A. W. Henry. (Minnesota Sta. Tech. Bul. 22, pp. 71, pls. 12, figs. 2. April, 1924.) Irrigated pastures. D. Hansen. (Montana Sta. Bul. 166, pp. 26, figs. 4. September, 1924.) Ten years' grain and seed testing in Montana. Annual report of the Montana Grain Inspection Laboratory July 1, 1922, to June 30, 1923. C. McKee and W. O. Whitcomb. (Montana Sta. Bul. 167, pp. 18, figs. 5. October, 1924.) Premature seedling of celery. C. C. Starring. (Montana Sta. Bul. 168, pp. 16, fig. 1. November, 1924.) Montana insect pests for 1923 and 1924, being the twentieth report of the State Entomologist of Montana. R. A. Cooley. (Montana Sta. Bul. 170, pp. 30, figs. 6. January, 1925.) Inspection of commercial fertilizers for 1924. H. R. Kraybill, T. O. Smith, and S. R. Shimer. (New Hampshire Sta. Bul. 214, pp. 19. November, 1924.) The chemical composition of the soils of the Bernardsville area in New Jersey. A. W. Blair and A. L. Prince. (New Jersey Sta. Bul. 406, pp. 16, figs. 2. November, 1924.)

NEW POSTER ON SWINE TUBERCULOSIS

Pointing out that tuberculosis of swine is easier to eradicate entirely than to control when present on a farm, a new poster of the department tells what farmers can do to improve health conditions among their hogs with respect to this disease.

The poster shows pictorially how tuberculosis is commonly spread. A typical barnyard scene containing cattle, hogs, and chickens is accompanied by the explanation that diseased chickens and cattle spread the disease among hogs. Persons who suspect the disease are advised to apply to their State veterinarian or the nearest Federal inspector for a slaughterhouse report on their next shipment of swine.

The poster measures 13 by 18 inches and is printed in two colors. Copies of it, and also of Farmers' Bulletin 751, Tuberculosis of Hogs, which discusses the subject in detail, may be obtained free on application to the Department of Agriculture, Washington, D. C.

A new hog film, entitled "Hog Breeds and Hog Management," is now available for circulation from the department. This film, a revision of material used in an older film prepared some years ago for use in South America, shows representative types of hogs of the leading breeds, and touches briefly on the "high spots" in the matter of hog management.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

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Elektro-futter-gesellschaft m. b. h. Betriebserfahrungen über elektro-futter-anlagen zur konservierung von grünfütter aller art. Dresden [1923].
Harriman, W. A. & co., inc. Sugar, a basic industry. New York, 1924.
Kurup, N. K. B. Short notes on the fibrous plants of Travancore. Trivandrum, Superintendent, government press, 1924.
McMillan, George. The agricultural high school in Ontario. Toronto, University of Toronto press, 1924.
Pfeffenberger, Walter. Die festigkeit des getreidenaltes unter dem einfluss verschiedener düngung. Gießen, 1922. Inaug.-diss.

Old Books

- Bertagnoli, Carlo. Delle vicende dell'agricoltura in Italia. Firenze, 1881.
Boursin, Elphège. Histoire de l'agriculture, du commerce et de l'industrie en France. Paris, 1870.
Canclon, L. V. Histoire de l'agriculture. Limoges, 1857.
Tracy, A. C. V. C. D. comte de. Lettres sur l'agriculture. Paris, 1857.

HORTICULTURE

- Bompard, J. P. Abrégé sur la culture de l'olivier. Draguignan, 1842.
Congrès national de la culture des plantes médicinales. 4th, Lyons, 1924. Comptendu. Lons-le-Saunier, Declume, 1924.
Ducrest, Vital. Semis de pomme de terre. Paris, "Maison rustique," 1924.
Farthing, F. H. The week-end gardener. London, Richards [1924].
Lloyd, J. W. Studies in horticulture. Chicago, Rand McNally, 1924.
Morse, L. L. Field notes on carrots. [2d ed.] San Francisco, C. C. Morse, 1924.

COOKERY

- Lord, I. E. Everybody's cook book. New York, Holt, 1924.
Scott, Jessica. Second year course in cooking. Worcester, Worcester continuation school, 1923.

CLOTHING AND TEXTILES

- Harmuth, Louis. Dictionary of textiles. 3d ed. New York, Fairchild publishing company, 1924.
Kneeland, Natalie. Hosiery, knit underwear, and gloves. Chicago, Shaw, 1924.

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Merriman, Mansfield. Mechanics of materials. 11th ed. New York, Wiley, 1916.
World's carriers year book and diary [10th]; 1925. London, 1925.

GENERAL SCIENCE

- Goldring, Winifred. The Devonian crinoids of the State of New York. Albany, 1923.
New York (State) Museum, Memoir 16.) Humberston. Science and labour. London, E. Benn, 1924.
Humphreys, W. J. Weather proverbs and paradoxes. Baltimore, Williams & Wilkins, 1923.
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CHEMISTRY AND MEDICINE

- Lebig, Justus. Handbuch der chemie mit rücksicht auf pharmacie. Heidelberg, 1843.
Milan. Istituto sieroterapico milanese. Funzioni e disfunzioni tiroidee. [Milan] 1923.
Wesslow, O. L. V. de. The chemistry of the blood in clinical medicine. London, E. Benn, 1924.
Winterstein, Alfred. Beiträge zur kenntnis der saponine. Weida i. Thür., Thomas & Hubert, 1923.

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- Cuboni, Giuseppe. Scritti scelti Cuboniani. Pavia, Fusi, 1924.
Gillet, Just. Plantes introduites & cultivées. Bruxelles, van Gompel, 1913.

- Jackson, A. B. Catalogue of hardy trees and shrubs growing at Albury Park, Surrey. London, Newnman, 1913.
Stolano, N., and Stefanoff, B. Flore de la Bulgarie. pt. 1.—Sofia, 1924.—(Bulgaria. Ministère de l'agriculture et des domaines. Annuaire des archives, vol. 4, 1923.)

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Illustrated botany. Ed. by John B. Newman. [New York] 1855.

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- Bryk, Felix. Linné als praktischer entomologe. Stockholm, Im eigenen verlage, 1924.
Donaldson, H. H. The rat. 2d ed. Philadelphia, 1924. (Memoirs of the Wistar Institute of anatomy and biology. no. 6.)
Hickson, S. J. Outline classification of the animal kingdom. 5th ed. Manchester, University press, 1924.
Kogel, Anton. Die fliegen als schädlinge der landwirtschaftlichen tierhaltung und ihre bekämpfung. Berlin, Parey, 1925.
Nutting, C. C. Fiji-New Zealand expedition. Iowa City, 1924. (University of Iowa studies in natural history. v. 10, no. 5.)
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- Valgren, V. N. Farmers' mutual fire insurance in the United States. Chicago, University of Chicago press, 1924.

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- Bastable, C. F. The commerce of nations. 9. ed. London, Methuen [1923].
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Rockell, Frederick. The Russian and British cooperative movements. London, Russo-British cooperative information bureau, 1919.
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Mikrochemie. Jahrg. 1, no. 1—Wien, 1923.

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- Hogestogler, C. A. (Public Roads). Investigation of motor-trail impact; report at fourth annual meeting of highway research council. Jr. of Society of Automotive Engineers, vol. 16, pp. 21-2, January, 1925.

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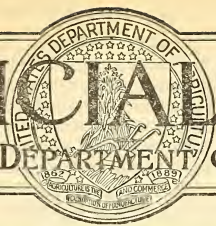
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- The hobwhite—game or nongame? American Field, vol. 103, no. 6, pp. 187-188, February 7, 1925.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MARCH 18, 1925

No. 11

UNIVERSAL COTTON STANDARDS APPROVED

Liverpool and Manchester Associations Announce Intention of Renewing Former Agreements.

Representatives of European and American cotton exchanges and associations met with officials of the Department of Agriculture at Washington last week for the purpose of preparing 40 sets of the Universal Cotton Standards to be used in international trade in American cotton during the coming crop year. The sets, consisting of 800 boxes of samples, have now been prepared and certified to as provided by law. They will be distributed among the various foreign exchanges which have agreed to use them, and copies will be placed on file with the various exchanges in this country. Two sets of the copies, drawn by lot, will be preserved in storage until the next meeting.

Secretary Jardine Addresses Conference

Secretary Jardine addressed the opening session of the conference March 9. He said that "the standardization of farm products is a vital necessity in bringing about orderly marketing so as to reduce the spread in prices between producers and consumers.

"We are very anxious," he declared, "that the conferees unite on the plan of standardization. One of the difficulties of agriculture is the low price to the producer and yet the consumer is paying all that he can. We must have standardization to reduce this spread.

"Orderly marketing," he continued, "is not possible until you have orderly production, in which standardization is an essential feature. Our desire is to try to come to a common understanding on a workable plan of standardization that will help all concerned, which will cut down the spread and get back to the

producer as much as possible for his efforts."

Original Set Carefully Preserved in Treasury

Dr. Henry C. Taylor, chief of the Bureau of Agricultural Economics, outlined briefly the steps taken in preserving copies of the standards in accordance with the supplemental agreement entered into last summer, which provides for annual meetings for the purpose of preparing copies of the standards for the ensuing year. A committee was then appointed by the conferees to obtain from the Treasury Department the original set that had been drawn and sealed last year and placed in the Treasury to be used as a basis for checking the new sets this year.

Several proposals have been advanced by representatives of the Liverpool Cotton Association and the Federation of Master Cotton Spinners' Association, of Manchester, England, under which they would be willing to renew an agreement with the various European exchanges and this department providing for the use of the universal standards. These proposals are the result of informal conferences with Doctor Taylor and members of the Cotton Marketing Division of the bureau. The Liverpool and Master Cotton Spinners' Associations had previously indicated that they would renew the agreement this year, but there is now every indication that should their proposals be agreed to by all parties concerned they would be willing to sign up, thus making the standard practically universal in international trade.

Liverpool and Manchester Make Proposals

The proposals of the Liverpool and Manchester associations provide for a two-year standard instead of requiring that the standard be prepared annually; for bringing the key sets up to the standard fixed by the conference in cases where it may be found that they have in any manner deteriorated; and, in case the first key set drawn at a succeeding conference is in any way changed that

(Continued on page 8)

AMERICAN FOREST WEEK PROCLAIMED

President Sets Aside Week To Be Devoted to Reforestation, Conservation, and Protection.

American Forest Week, formerly known as Forest Protection Week, has been proclaimed by President Coolidge to be observed April 27 to May 3. In issuing his proclamation the President said:

"I desire to bring to the attention of all our people the danger that comes from the neglect of our forests. * * * We have passed the pioneer stage and are no longer excusable for continuing this unwise dissipation of a great resource. To the Nation it means the lack of an elemental necessity and the waste of keeping idle or only partly productive nearly one-fourth of our soil. To our forest-using industries it means unstable investments, the depletion of forest capital, the disbanding of established enterprises, and the decline of one of our most important industrial groups.

All Citizens Should Participate

"Our forests ought to be put to work and kept at work. I do not minimize the obstacles that have been met nor the difficulty of changing old ideas and practices. We must all put our hands to this common task. It is not enough that the Federal, State, and local governments take the lead. There must be a change in our national attitude. Our industries, our landowners, our farmers, all our citizens must learn to treat our forests as crops, to be used but also to be renewed. We must learn to tend our woodlands as carefully as we tend our farms.

"Let us apply to this creative task the boundless energy and skill we have so long spent in harvesting the free gifts of nature. The forests of the future must be started to-day. Our children

are dependent on our course. We are bound by a solemn obligation from which no evasion and no subterfuge will relieve us. Unless we fulfill our sacred responsibility to unborn generations, unless we use with gratitude and with restraint the generous and kindly gifts of Divine Providence, we shall prove ourselves unworthy guardians of a heritage we hold in trust."

By placing the Department of Agriculture squarely behind the observance of American Forest Week, Secretary Jardine emphasized the importance of forestry to the farmer and small landowner, declaring that one-third of all forest land in the United States is in the form of small woodlots.

Governor Lowden Will Head Campaign

"The President by his proclamation has designated April 27-May 3 as the period which should be observed this year as American Forest Week," said the Secretary. "The Department of Agriculture, through the Forest Service, for four years has carried the burden of making this annual observance a matter of national importance. This year, I am glad to say, a committee of patriotic citizens and organizations, headed by Hon. Frank O. Lowden, of Illinois, has assumed the direction of this annual educational campaign.

"This does not mean that the Department of Agriculture will in any way slacken its efforts to bring forestry home to every citizen. On the contrary, this department will be represented in the campaign by the Forest Service, the Bureau of Plant Industry, and the Biological Survey, these three bureaus serving on the general Forest Week Committee along with the other organizations.

"When American citizens more fully realize the rapid rate at which this Nation's timber resources are being exhausted, a national forestry policy with Federal, State, and local governments all performing their part will be assured. The Clarke-McNary Forestry Act opens the door.

Idle Land Must Grow Timber

"About 80,000,000 acres of idle forest land in the United States must be put to work growing timber crops. Man-caused forest fires, which every year sweep about 8,000,000 acres of forest land, must be stopped by an awakened public. Our productive forests must be made permanent sources of timber supply through intelligent management.

"Farmers, especially, should be awake to our country's forestry needs. One-third of all our forest land is in the form of farm woodlots and small holdings. Farmers also are the great-

est single class of wood users. These are sufficient reasons why forestry is of prime importance to agricultural interests in all parts of the country.

"The observance of American Forest Week in every American community will help put the United States on the road to what this Nation greatly needs—a real national policy of forestry."

The American Forestry Association, the General Federation of Women's Clubs, the Izaak Walton League, the National Lumber Manufacturers' Association, and the United States Forest Service have undertaken to act with Governor Lowden in forming a general committee of about 100 representatives of as many national societies and associations. Through these organizations it is expected that every community in the country will be deeply stirred during American Forest Week to an appreciation of the dimensions and urgency of the Nation's forest problems, such as protection from fire and destructive taxation, reforestation, extension of forest areas, utilization of the forests for recreational and industrial purposes, and the creation of conditions promotive of instead of deterrent to forest maintenance.

ADOPT PLAN TO MAKE OYSTERS SAFE

Plans to insure that oysters will be free from contamination or pollution in the beds where grown, in the plants where shucked, or by contact at any stage with handlers who might be typhoid carriers were adopted recently at a conference of Federal, State, and city health and food officials concerned with the enforcement of sanitary and food laws, with State shellfish commissioners and representatives of the oyster industry. The meeting was called in Washington, D. C., by the United States Public Health Service, which had traced a number of typhoid cases in various cities to the eating of raw oysters shipped by one concern from New York State.

Representatives of the Bureau of Chemistry of the Department of Agriculture and of the Bureau of Fisheries of the Department of Commerce attended and took part in the conference, since the Bureau of Chemistry, under the Federal food and drugs act, has supervision of oysters shipped in interstate commerce, and the Bureau of Fisheries is concerned in the development of the oyster industry.

The plan of control agreed upon at the conference included provision that the beds on which shellfish are grown and the plants in which shellfish are shucked or otherwise prepared or packed must

be inspected and controlled by some governmental agency. Freedom from typhoid bacilli of the workers who handle shellfish must be determined. The plan also provides for supervision of methods of shipping, storing, and displaying shellfish for sale. The product must conform to an established bacterial standard and meet Federal, State, and local laws and regulations in every particular.

The plan contemplates that the work will be done cooperatively by the Federal, State, and city agencies concerned with work relating to the public health, food control, and the development of the shellfish industry.

Veterinary Talks by Radio Through KDKA, Pittsburgh

By arrangements with the radio editor of the National Stockman and Farmer, Dr. C. J. Millen, of the Bureau of Animal Industry of the department, is delivering a series of radio talks through station KDKA, Pittsburgh, Pa. These addresses, which began Thursday, January 29, are to go "on the air" every other Thursday at 8 p. m., eastern standard time, as part of a farm program. They will continue until June 4, when the series will be completed.

Eight of the ten subjects deal with veterinary problems of practical interest to raisers of livestock. The remaining two subjects deal with animal breeding and feeding. Doctor Millen is the inspector in charge of the Pittsburgh office of the Bureau of Animal Industry and is delivering the addresses personally. All are of authoritative nature, having received the official approval of Dr. John R. Mohler, chief of the bureau.

The talks deal chiefly with the more serious livestock and poultry diseases. They are of educational nature and though discussing practical points in prevention and control do not undertake to instruct farmers in technical veterinary matters. The addresses are a continuation of a similar series furnished by the bureau and broadcast by the same powerful station last year with favorable results.

LIBRARY STAFF DINNER

A meeting of the Library Staff of the department was held on March 6 at 5 o'clock, in the reception room of the Bureau of Home Economics, at which Doctor O'Brien gave a talk on the work of that bureau. After the meeting the members of the staff were taken in groups to the various laboratories and the work of the laboratories explained in more detail. At 6.30 the staff reassembled in the Garden House of the Grace Dodge Hotel for a Library Staff dinner.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

GRADE MEAT FOR STEAMSHIP LINES

More than 6,000,000 pounds of meat purchased by steamship lines operating out of New York last year was graded by department officials. Nearly 5,000,000 pounds was graded for the United States Lines alone. Some 89,000 pounds of meats were graded also for the Childs Restaurant Co. at New York, in addition to supervision of deliveries of more than 3,500,000 pounds to this company. Steamship companies using the Government grading service include the Munson Line, laid-up fleets of the Shipping Board, Dollar Line, and the United American Line.

STUDY LAND VALUES IN DAIRY BELT

A study of farm land values in the southern Wisconsin and northern Illinois dairy belt for the purpose of ascertaining the factors which influence such values is being made by the department. It is expected that the analysis will be completed very soon.

LARGE RICE CROP IN INDIA

The rice crop of India is about 10 per cent larger this year than last, according to a cable just received by the department from the International Institute of Agriculture. Indications point to a better yield per acre this year than in 1923-24, since the acreage, according to the latest official report, was only 2 per cent larger than last year.

BUTTER PRODUCTION SHOWS INCREASE

Butter production in the United States increased nearly 35,000,000 pounds during the first nine months of 1924, when production reached 1,045,260,000 pounds, as compared with 1,010,754,000 pounds during the corresponding period in 1923, according to reports compiled by the department.

STANDARDS FOR FOOD PRODUCTS

The Joint Committee on Definitions and Standards has agreed upon and will shortly issue tentative revised definitions and standards for fruit products, including jams, jellies, preserves and marmalades, and for alimentary pastes, and for butterfat. Tentative definitions and standards for almond paste and for sauerkraut were also prepared and will

be issued shortly. A final schedule for meat products was approved and will be recommended for adoption. The tentative definitions and standards upon which the committee agreed will be published and criticism invited before they are recommended for final adoption by Federal and State food officials. The latter will then use them as guides in enforcing laws to prevent the adulteration and misbranding of foods.

BULLETIN TRANSLATED INTO SPANISH

Farmers' Bulletin 1055, entitled "Country Hides and Skins," prepared by the Bureau of Chemistry in cooperation with the Bureau of Animal Industry and the Bureau of Markets and Crop Estimates, has been translated in its entirety into Spanish by the Inter-American High Commission for distribution in South American countries.

ISSUE TABLES ON MEAT PRODUCTION

The trend of meat production and consumption in the United States for the calendar years 1907 to 1924 is shown in a series of tables just issued by the Bureau of Animal Industry of the department. The first table gives the numbers annually slaughtered of each kind of livestock, and is followed by others showing the estimated meat equivalents of the various animals. The complete series may be had on application to the bureau at Washington, D. C.

PHILUSDA CLUB

At the January meeting of the Philusda Club it was decided that, instead of holding formal meetings every month to be addressed by some member of the organization, an attempt should be made to bring in speakers from other branches of the Government in Philadelphia or from outside whenever possible, meetings of this type to be held about every third month. It was also decided to arrange at intervals for the club to visit some manufacturing plant of note in which members of the club were interested, directly or indirectly, in their routine work, these visits to be similar to those already made to Felin's packing house, Philadelphia, and Campbell's Soup Co., Camden, both of which are under the supervision of the local office of the Bureau of Animal Industry. Every third month also, a social evening meeting will be held when the entire personnel of the various Federal offices in and around Philadelphia could attend and become acquainted.

In pursuance of this policy, the February meeting was devoted to a visit to

Whitman's candy factory, where approximately two hours were spent going through the large establishment. All types of high-grade confectionery were shown in various stages of manufacture and packing for shipment, and the members expressed both interest and surprise at the magnitude and character of work.

NEW HAVEN CLUB

The New Haven U. S. D. A. Club held its annual meeting at the Hotel Duncan January 30, with an attendance of 38. Dr. W. E. Britton, president of the club, presided. Dr. E. H. Jenkins, director emeritus of the Connecticut Agricultural Experiment Station, gave a most interesting and entertaining account of the early history of the work of the Connecticut station, which is the oldest agricultural experiment station in the United States. Past President L. M. Tarr, local weather observer, also spoke. The election of officers for the ensuing year was as follows: President, Paul P. Ives, extension service; vice president, Dr. George P. Clinton, collaborating botanist; secretary-treasurer, Raymond K. Clapp, extension service.

ST. LOUIS CLUB

At the January meeting of the St. Louis U. S. D. A. Club C. H. Swanger, in charge of the meat inspection laboratory of the Bureau of Animal Industry was elected secretary-treasurer of the club to take the place of B. S. Jones, who had resigned from the service.

The February meeting was held on Friday, February 13, at the American Hotel. The program consisted of papers by Mr. Horton, of the Federal Horticultural Board, on The Need and Purpose of the Federal Horticultural Board; and by Mr. Satterthwaite on Field Work on Grain and Grass Bill Bugs.

Various methods of treating horses for infestations with biting and sucking lice were tested by the Bureau of Animal Industry during the last fiscal year, in the course of studies in the treatment and control of external parasites of livestock. The best results were obtained by dipping or spraying with coal-tar creosote solutions or arsenical dip. The department is making exhaustive investigations of the numerous kinds of parasites—both external and internal—that affect domestic animals, and also maintains an "index-catalogue" of the published literature on parasites, which is believed to be the most complete of its kind in existence. It includes data on animal parasites found in all parts of the world.

THE OFFICIAL RECORD

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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

MEMORANDUM No. 521—March 9, 1925.—Effective March 9, 1925, and until further notice, James M. Locknane is designated Acting Director of Purchases and Sales for the department.

For the present Mr. Locknane will also act as the representative of the department on the Federal Purchasing Board and the Federal Specifications Board.

CHESTER MORRILL RESIGNS

Chester Morrill, officer in charge of the Packers and Stockyards Administration and the Grain Futures Administration of the department, has resigned his position, the resignation having taken effect March 12. His resignation was accepted by Secretary Jardine. The letters of Mr. Morrill and the Secretary follow:

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
March 5, 1925.

Hon. W. M. JARDINE,
Secretary of Agriculture.

DEAR MR. SECRETARY: In order that I may enter a field of activity which is attractive to me and in which I expect to broaden my experience and opportunities, I tender my resignation as Assistant to the Secretary of Agriculture and officer in charge of the Packers and Stockyards Administration and Grain Futures Administration, effective March 12, 1925. This date will be the expiration of 11 years of association and service, valuable and interesting to me, in various capacities in this department. In the two administrations of which I am in charge you will find competent personnel who, I am sure, will carry on the work to your entire satisfaction.

Because of the needs of my new connection, it has been necessary to fix an early date for the change. Therefore I will appreciate it greatly if you will give the acceptance of my resignation your early attention.

Respectfully yours,
(Signed) CHESTER MORRILL.

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
March 6, 1925.

Mr. CHESTER MORRILL,
Assistant to the Secretary.

DEAR MR. MORRILL: I have your letter of March 5 submitting your resignation as Assistant to the Secretary of Agriculture and officer in charge of the Packers and Stockyards Administration and the Grain Futures Administration, to take effect on March 12, 1925.

Since your resignation is actuated by a desire to enter a field which offer greater opportunities, I do not feel that I should interpose objection to your proposed course. I note with particular regret that you wish to leave the department so early as March 12. In accepting your resignation I am conscious of the loss which I will sustain because of the extensive knowledge which you have acquired in having participated in the consideration of some of the most important problems with which this department is faced.

With every good wish for your future success in this new field, I am,

Sincerely yours,
(Signed) W. M. JARDINE.

PRAISE FOR PUBLIC ROADS

An article by George W. Anderson, judge of the circuit court of Massachusetts, which appears in the March issue of the Atlantic Monthly, contains the following reference to Federal-aid road work. The commendation of the Bureau of Public Roads and its publication, Public Roads, is especially gratifying to the department.

"In this extensive work of motor-road construction we have been combining Federal, State, and municipal taxation and administration. Since 1916 the Federal Government has appropriated about \$600,000,000, allotted to the States on a scheme intended to contribute to a real national-highway system. This combination fairly and effectually recognizes that highways, originally and primarily for local use, are increasingly for general national use. The national work is carried on under the Bureau of Public Roads in the Department of Agriculture. A study—not very profound—of the methods evolved leaves, in general, a pleasant impression of intelligent and sound direction and administration. The Federal bureau seems to have rendered efficient and economical services in working out the many difficult new problems and in furnishing in the States and its subdivisions suggestions as to sound methods of construction, maintenance, and financing. The monthly periodical, Public Roads, contains data of the greatest value to all officials and road engineers."

DOCTOR WEIR RETURNS FROM WEST INDIES

Dr. James R. Weir, pathologist in charge of pathological collections, recently returned from Cuba, where he was

engaged during the months of November and December in making a survey of sugar-cane fungi for the Tropical Plant Research Foundation. After completing his work with that organization, Doctor Weir studied the pathology of crop plants and forest trees in Haiti, Dominican Republic, and Porto Rico. In order to extend the usefulness of the pathological collections of the Bureau of Plant Industry, he brought together a great deal of material of value to the plant pathologists, supplementing that which he assembled in South America in 1923-24.

RADIO TELLS OF DEPARTMENT WORK

A recent instance of the use of radio in disseminating information with regard to the work of the department is shown in a letter just received by the Chief of the Bureau of Animal Industry, from Dr. Albert Long, in charge of meat inspection in New York City:

"Referring to * * * the draft of a radio talk which was inclosed, I desire to advise you that the talk together with additional information concerning the bureau's work was broadcast from Station WJZ Saturday evening, February 21, 1925. Many who listened in told me that they considered the talk very interesting and instructive. This talk was the second of a series to be given by members of the Nyusda Club describing the work of the United States Department of Agriculture. I * * * know that the members of the club as well as myself appreciate your kindness and courtesy in helping us to tell the public about the department's work."

"PAN AND CERES IN THE MOVIES"

The scope and diversity of the motion picture work of the department are graphically set forth in a one-reel picture just released, entitled "Pan and Ceres in the Movies." This picture, made up for the most part of "cut-outs" from films previously released by the department, covers in 15 minutes the high spots of American field and animal husbandry, with occasional excursions into the kindred domains of forestry and zoology.

The observer of the picture is whisked from one corner of the country to another in a rapid succession of diverse scenes, some of them illustrative of common farm practices, some of them bizarre scenic oddities that have been picked up by the camera men of the department at different times, and many of them very beautiful scenic shots made in our national forests.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How many forest experiment stations are there?

Answer. Forest investigations are conducted at eight forest experiment stations. It is the plan of the Forest Service ultimately to have a forest experiment station in each of the 12 distinct forest regions of the United States. Existing stations are:

1. The Northeastern, Amherst, Mass.
2. The Appalachian, Asheville, N. C.
3. The Southern, New Orleans, La.
4. The Lake States, St. Paul, Minn.
5. The Pacific-Northwest, Portland, Ore.
6. The Fremont River, Missoula, Mont.
7. The Fremont, Colorado Springs, Colo.
8. The Southwestern, Flagstaff, Ariz.

The first six stations named have staffs of four to six research men. The Fremont and Southwest stations have but two men each. Although the office work is done at headquarters, the investigations, of course, are carried on entirely in the woods, and these investigations cover the entire forest region in which the stations are located.

Question. What are the important points to look for in selecting a pressure canner for home use?

Answer. A pressure canner should be strongly built and the top should clamp on tightly so that there is no leakage of steam when it is closed. There must be an air outlet with a pet cock and the top should be equipped with a pressure gauge, a thermometer, and a safety valve. Since the temperature is a measure of the pressure, it is ordinarily assumed that one can be interpreted in terms of the other. The pressure gauge, however, does not always indicate the actual temperature within the canner, and it is better to have both a gauge and a thermometer, for one then serves to check the accuracy of the other. In size, a pressure canner should be suited to the kind of containers and the probable number to be handled at one time. In case the canner must be lifted on and off the stove during canning, it is also important that it should not be too heavy.

Question. To what extent has bud selection been applied to the improvement of fruits, and has it been applied to any other tree crops?

Answer. In recent years bud selection has become a very important feature of the propagation of citrus trees, including oranges, lemons, and grapefruit, in California. In 1917 the California Fruit

Growers' Exchange, a cooperative organization of citrus growers, established a bud department for facilitating the establishment of bud selection in correlation with tree performance records. The trees used as sources of budwood were selected on the basis of performance records of consistently high yields and uniformly good fruit. This department has steadily increased its operations and the major part of citrus propagation in California has been on the basis of bud selection. Bud selection work with citrus is also being developed, although on a smaller scale, in Alabama and Florida. Experimental applications of the bud-selection principle are under way upon deciduous fruits and upon sugar cane.

Question. Has the department succeeded in developing a satisfactory machine for cotton dusting to poison the boll weevil?

Answer. For several years the Bureau of Entomology has maintained at the boll-weevil field station at Tallulah, La., a mechanical force engaged primarily in the development of cotton-dusting machinery. In accordance with models developed by these engineers, machinery of various types, prices, and capacities is now being manufactured which meets the requirements and circumstances of almost all classes of cotton growers. This machinery includes the hand gun, the saddle gun, the one-mule machine, and the cart machine. In addition to these types of machinery in general use, experiments have been conducted within the last two years in the use of airplanes for distributing the poison. Very satisfactory progress has been made along this line by using special types of airplanes with specially constructed dust hoppers. Development is still proceeding on the hopper most suitable for this work and undoubtedly there will be further development of airplanes specially suited for cotton dusting.

BUREAU AIDS IN SNOW REMOVAL

The following extract from a letter addressed to the chief of the Weather Bureau by the official in charge of the Weather Bureau station at Princeton, N. J., describing the aid which the bureau renders in that State in connection with the project of removing snow from the main highways, is of interest as illustrating a branch of the Weather Bureau's work, throughout a large part of the northern United States, that has greatly developed during the last few years:

"During a snow period, the bureau and the State highway department maintain continuous contact; first, in

advance of the storm, so that preparations may be made for snow work, or reassuring information issued that there will not be snow in certain sections of the State. Second, continuing information as to the progress of the storm, so that relief for snow removal gangs can be arranged, such as food, and repairs for damaged machines, and information as to changes from snow to sleet or rain, or otherwise, also wind changes which would cause drifting, etc., and finally, the duration of the storm so that final clean-ups may be made, and the gangs called off, not too early, leaving more snow to remove, and not too long on the job, thereby creating useless expense. A very similar contact is maintained with the local street car companies.

"The highway department is fully appreciative of both forecasts, either that snow is threatening, or the more pleasing reassurance that none is to be expected."

MOTOR VEHICLES INCREASE IN 1924

Motor-vehicle registrations in the United States reached a total of 17,591,981 at the end of 1924, according to the Bureau of Public Roads of the department. Further study shows that at the present time there is one motor vehicle for every 6.4 persons, one passenger car for every 7.3 persons, and one motor truck for every 69 persons.

The reports received from the 48 States show a net gain in registration of 2,501,045 for the year, or 16.6 per cent. Passenger cars increased 14.7 per cent in number, while motor trucks increased at more than double this rate, or 32.9 per cent, indicating rapid development of commercial use of the highways. Truck registrations increased 54.4 per cent in Kansas and 42.4 per cent in North Dakota.

The greatest increase in total registration is shown in the South Atlantic group of States, where the increase was 21.5 per cent, while the minimum is shown in the West North Central group, amounting to 10 per cent.

The total gross receipts from license fees amounted to \$225,492,000. Of this amount, \$184,393,000, or 82 per cent, is applicable to highway work under the supervision of the State highway departments.

T. M. Campbell, Tuskegee Institute, Alabama, and J. B. Pierce, Hampton, Va., field agents in negro extension work, Office of Cooperative Extension Work, spent the week of March 7 in the department to assist in assembling material for a report on 10 years of negro extension work which is being prepared by that office.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

MUSEUM COOPERATES IN INSECT WORK

Close cooperation is maintained between the National Museum and several of the bureaus of the department, especially those which depend on the various collections of specimens maintained in the museum for reference in their work. An effort is made on the part of the field workers and others connected with these bureaus greatly to increase the collections of species of insects, birds, mammals, or plants, as the case may be, and a representative of each bureau is made honorary or assistant curator of the corresponding division of the museum. A number of experts on the department staff are detailed to give their time and attention largely to the museum collections, improving, extending, and cataloging them and otherwise making the material available to their coworkers.

Thus Dr. L. O. Howard, chief of the Bureau of Entomology, is honorary curator of the Division of Insects of the National Museum. Nine-tenths of the scientists engaged in maintaining the entomological collections at the museum are carried on the Bureau of Entomology rolls, and constitute an emergency staff of specialists on whom Doctor Howard has the right to call when occasion requires. When a serious outbreak of some unusual insect pest occurs in any part of the country, a man who has specialized in the life history, habits, and distribution of that species, or the group to which it belongs, is available to send promptly into the district affected to institute control methods or study unusual features of the infestation.

It is highly necessary in dealing with insect pests to be able to identify the culprit exactly. Comparing a specimen with a description in a scientific book does not furnish sufficient information on which to base control activities. The insect to be dealt with must be compared with authentically named material and its identity, habitat, and food habits established beyond a doubt by some one who is an expert on the subject. It can readily be seen, therefore, that the collections of the museum are of immense value to the regular work of the bureau and of great importance to entomologists everywhere. No foreign country has any comparable collection maintained cooperatively, by its agricul-

tural department and its public museums, and the collections here are visited constantly by representatives of other countries seeking authoritative data on insects which they happen to be studying from the scientific or the economic viewpoint.

An interesting illustration of the function of the National Museum as a clearing house for economic entomological activity occurred recently when a series of insect specimens was received from the Government entomologist of the Federated Malay States. These specimens were of a tachinid fly parasitic on a moth which is very injurious to coconut trees. The sender wrote that he had been unsuccessful in securing identification of these parasites. From the very extensive reference collection of specimens maintained in the museum under the direction of the Bureau of Entomology of the United States Department of Agriculture, the species was identified and arrangements were made for the immediate publication of the description. It happened that a few days afterwards a member of the Canadian entomological staff, who had been commissioned to spend two years in Fiji investigating a moth injurious to coconut, passed through Washington. His attention was drawn to the parasite of this moth, which appears to be very abundant and beneficial in the Federated Malay States. He will endeavor immediately to introduce the same parasite into Fiji.

Similar cooperation exists between the museum and the Bureaus of Plant Industry and the Biological Survey. It is to the advantage of the department to have these priceless collections deposited in the museum, not only for the sake of having them all in one place for ready comparison and study but because the museum is a fireproof building, where they are as safe as possible. Small sections of the various collections are, of course, withdrawn from time to time for special study, but the main collections are in the museum.

WITH EXTENSION FORCES

ADOPT POULTRY SANITATION PROGRAM

Experienced poultrymen of Hampshire County, Mass., told their new county agent, R. A. Payne, in 1920, that one of their biggest problems was raising pullets to healthy maturity. Study of conditions showed the chief causes of the difficulty were parasitic infestations which could be remedied by rigorous measures of sanitation.

A program for growing poultry under sanitary conditions, recommended by

poultry specialists, was presented to the poultrymen, and three men who had had severe losses from these troubles agreed to follow it the following season for a demonstration of its effectiveness.

Control was practically complete in each case. The next season 16 farmers demonstrated the system and 26 followed it in 1923. The results for the three years were excellent and showed that the method of control was practical for the average poultryman.

The problem then became one of how to reach the largest number of persons interested in the shortest time. Representative poultrymen of the different localities and the county agent met to plan the work for 1924 and decided to launch a disease-control campaign.

Nine extension schools for poultry raisers, held in sections of the county having the most poultry, were first on the campaign. The measures of control which had already been demonstrated comprised the subject matter discussed. Through these, 103 poultrymen agreed to put the control measures into practice on their farms. These men expected to hatch or buy 66,750 chicks for the 1924 season.

Lists including names of all poultry men in the county owning 50 or more birds were prepared. A circular letter, inclosing an outline of the control method and a pledge card, was sent to each person on the list. This was followed by a second letter asking all who cared to sign the cards and return them. The final number of persons agreeing to try the method was 223, and these expected to start the season with 131,000 baby chicks.

Local men familiar with the details of the methods served in most of the communities, but Mr. Payne visited as many farms as possible during the spring and summer to aid in clearing up any difficulties. A survey of local merchants, made early in the campaign, showed that none of them carried a desired type of disinfectant, but as soon as it was possible to determine how large the demand would be, stores in nine communities placed the material in stock.

Timely letters of reminder were sent to cooperators when steps in the procedure were to be taken. In August three tours, attended by about 135 people, were made to visit some of the outstanding demonstrations.

In October a report blank was sent to each cooperator, which 70 returned. Two weeks later another was sent to the remainder, bringing in 54 replies, which made a total of 124. Ninety-eight reported the condition of their flock better than the previous year, 14 could see no difference, and 12 had had poor results.

The final test of the success of the undertaking, however, came when the cooperators were asked if they expected to follow the program again. Six could not be sure, 14 had had enough of poultry raising, but 104 expected to make it a permanent part of their work.

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- Jones, D. B., and F. A. Csonka. (Chemistry). Proteins of the cottonseed. *Proc. of Soc. for Experimental Biology and Medicine*, vol. 22, 1925.
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- Kellerman, K. F. (Plant Industry). The low plant food value of peat. *Bulletin of the Green Section of the United States Golf Association*, vol. 4, pp. 35-36, February 16, 1925.
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- Weiss, Freeman. (Plant Industry). Diseases of the China aster. *American Florist*, vol. 44, pp. 269-270, February 28, 1925.
- Wherry, E. T. (Chemistry). Radio-detector minerals. *Am. Mineral*, vol. 10, No. 2, February, 1925.

ADDITIONAL PUBLICATIONS

- Soil Survey of Antelope County, Nebraska.** By F. A. Hayes, of the United States Department of Agriculture, and H. C. Mortlock, M. H. Layton, H. E. Weakley, and J. D. Westerman, of the Nebraska Soil Survey. Pp. 60, fig. 1, map. (From F. O. Soils, 1921.) Price, — cents.
- Soil Survey of Deuel County, Nebraska.** By Louis A. Wolfanger, and A. W. Coke, of the United States Department of Agriculture, and H. E. Weakley, of the Nebraska Soil Survey. Pp. 49, fig. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.
- Service and Regulatory Announcements No. 99.** Bureau of Agricultural Economics. Revised Regulations for Warehousemen Storing Tobacco. Pp. 1-27. March 8, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

- The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of March 2-7, 1925. Copies of these publications may be obtained from the stations issuing them.
- Infectious abortion investigations.** H. F. Lennhardt, C. H. Kitchman, and C. E. Sawyer. (Kansas Sta. Tech. Bul. 14, p. 23, fig. 1, Feb., 1925.)
- A study of farm organization and management in Mason and Fleming Counties.** W. D. Nicholls, C. U. Jett, and Z. L. Galloway. (Kentucky Sta. Bul. 253, pp. 84, figs. 6, June, 1924.)
- The grape leafhoppers of bluegrass Kentucky.** H. H. Jewett. (Kentucky Sta. Bul. 254, pp. 85-130, Aug., 1924.)
- The Quarterly Bulletin.** (Michigan Sta. Quart. Bul. vol. 7, No. 3, pp. 73-118, figs. 12, Feb., 1925.)

- I. Foulbrood control and diseases of bees.** II. Foulbrood law and revised regulations. F. L. Thomas and C. S. Rude. (Texas Sta. Circ. 36, pp. 24, pl. 1, figs. 2, Aug., 1924.)
- The principles of summer fallow tillage.** M. A. McCall and H. M. Wanser. (Washington Col. Sta. Bul. 183, pp. 77, figs. 5, Oct., 1924.)
- Beef cattle feeding experiments.** H. Hackerdorn, J. Sotola, and R. P. Bean. (Washington Col. Sta. Bul. 186, pp. 26, figs. 7, Nov., 1924.)
- Inoculation increases yield and quality of peas for canning.** A. L. Whiting, E. B. Fred, and J. W. Stevens. (Wisconsin Sta. Bul. 372, pp. 24, figs. 20, Jan., 1925.)
- Climatological data for Wyoming.** F. E. Hopper. (Wyoming Sta. Bul. 139, pp. 63-160, pls. 2, figs. 11, June, 1924.)

CIVIL SERVICE ANNOUNCEMENTS

Junior entomologist, \$1,860. Vacancies in the Bureau of Entomology for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 25.

Junior typist, \$1,140; junior stenographer, \$1,820. Departmental service. These examinations will be held quarterly on a Saturday and will begin at 1 o'clock p. m. This announcement supersedes former announcements of stenographer and typist examinations for the departmental service. Advancement in pay may be made without change in duties to \$1,500 a year for junior typist and to \$1,680 a year for junior stenographer. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes April 28, July 28, and November 3, 1925.

Under clerk, under file clerk, junior file clerk, junior clerk, junior typist, junior stenographer. These examinations are open only to persons who are now employed at Washington, D. C., in the apportioned classified service. Application Form 372 is required of all applicants. This form, which may be obtained from the Civil Service Commission by those entitled to be examined, contains a certificate which must be executed by the Secretary, Assistant Secretary, or chief clerk of the department or the head or chief clerk of the bureau or independent office in which the person is employed, showing the current efficiency rating of the applicant, which rating must be satisfactory. Form 2340 is also required of those who apply for the under file clerk or junior file clerk examination. Form 1030 is also required of each applicant whose position has been brought within the apportioned service but who himself has not yet been charged to the apportionment (e. g., in the case of messenger boys, messenger girls, printers' assistants, and laborers classified by Executive orders). Receipt of applications closes April 28, 1925.

Assistant translator, \$1,500; translator, \$1,680; senior translator, \$1,860; principal translator, \$2,100. Vacancies in the departmental service, Washington, D. C., and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$1,860 a year for assistant translator, up to \$2,040 a year for translator, up to \$2,400 a year for senior translator, and up to \$2,700 a year for principal translator. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 11.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE AND HORTICULTURE

- Brun, Félix. La vie privée des paysans au moyen âge et sous l'ancien régime, par Félix Brun. Paris, Société bibliographique, 1922.
- Fargo, C. B. Planning and planting for the home beautiful. New York, C. B. Fargo, 1925.
- Todoraro, Francesco. Lezioni di agricoltura. 3d ed. Casale Monferrato. Marescalchi, 1924.
- Wilson, John. Our farm crops. London, 1859.

MISCELLANEOUS AGRICULTURAL PRODUCTS

- Canada. Dept. of agriculture. Publications branch. Canadian wheat and wheat flour. Ottawa, 1924.
- Killough, L. W. The tobacco products industry in New York and its environs. New York, 1924.
- Knepp, A. W. The cocoa and chocolate industry. London, Pitman, 1923.
- Prescott, S. C. Report of an investigation of coffee. New York, 1924.
- Prinsen Geerligs, H. C. Cane sugar and its manufacture. 2d ed. London, N. Rodger, 1924.
- DAIRYING
- Lord, L. J. Practical butter and cheese-making. London, E. Benn, 1925.
- Svensk mejerikalender. Årg. 2; 1922. Åkarp, 1922.
- Swaving, A. J. Recueil de législations beurrières et margarinières concernant la répression des fraudes dans le commerce du beurre. pt. 1. La Haye, Van Langenhuyssen, 1914.

FORESTRY

- Trevor, C. G., and Smythies, E. A. Practical forest management; a handbook with special reference to the United Provinces of Agra and Oudh. Allahabad, Government press, 1923.

CHEMISTRY AND PHARMACY

- National symposium on colloid chemistry. Colloid symposium monograph. v. 2. New York, Chemical catalog company, 1924.
- Pharmacopoea universalis. 4. ausg. Weimar, 1845-46.
- Some studies in biochemistry, by some students of Dr. G. J. Fowler. Bangalore, Phoenix printing house, 1924.

BIOLOGY AND ZOOLOGY

- Cameron, A. G. The wild red deer of Scotland. Edinburgh, W. Blackwood, 1923.
- De Beer, G. R. Growth. London, E. Arnold, 1924.
- Neuestes magazin für die Liebhaber der entomologie. 1. bd., 1-5. hft. Stralsund, 1791-94.
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BOTANY

- Balfour, J. H., and Sadler, John. Flora of Edinburgh. Edinburgh, 1863.
- Boas, Friedrich. Die wichtigsten getreidekrankheiten und ihre bekämpfung. Freising, F. P. Datterer, 1923.
- Fries, E. M. Synopsis generis lentiginum. Upsalae, 1836.
- Gorter, David de. Flora Belgica. Trajecti ad Rhenum, 1767.

ACCOUNTING

- Dingman, C. F. Accounting and business methods for contractors. New York, McGraw-Hill, 1924.

BUILDING

- Coffin, E. W., and Humphrey, H. B. Lower-cost buildings. Handbook on building walls with rammed earth. New York, Publicity corporation, 1924.

ECONOMICS AND STATISTICS

- Mills, F. C. Statistical methods applied to economics and business. New York, Holt, 1924.
- Nigeria. Chief secretary. Nigeria handbook containing statistical and general information. 5th ed. 1924. Lagos, 1924.
- Roscher, W. G. F. Geschichte der national-ökonomik in Deutschland. 2. aufl. München, R. Oldenbourg, 1924.

Rubner, Konrad. Die bewegung der holzpreise in Deutschland vom beginn des weltkriegs handels bis zum weltkrieg. Neudamm J. Neumann, 1920.

Tule, G. U. An introduction to the theory of statistics. 7th ed. London, C. Griffin, 1924.

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REPORT ON INDIANA EXTENSION WORK

A summary of agricultural extension activities in Indiana for the past 10 years, 1914-1924, is included in the printed report on agricultural extension work in Indiana for the fiscal year 1924. Among the interesting items in the summary are:

"More than 500,000 Indiana people have been reached annually through meetings, short courses, field and home demonstrations, publications, exhibits, and other agricultural extension work;

"Two hundred and fifteen thousand nine hundred and seventy-seven boys and girls have been enrolled in club projects;

"The acreage of soy beans has been increased during the 10 years from 5,000 acres to more than 200,000 acres;

"The alfalfa acreage has been increased from 36,924 acres in 1913 to 110,924 acres in 1923;

"One hundred and thirty-four bushels of certified seed potatoes were used in 11 counties in 1919, and in 1924, 150,000 bushels of certified seed potatoes were used in 92 counties;

"Four thousand seven hundred and seventy-five poultry-culling demonstrations were attended by 135,448 people and 575,100 hens were examined;

Ninety-three thousand eight hundred and seventy-three farm-record books have been placed with Indiana farmers and used in keeping accounts and cost production records."

UNIVERSAL COTTON STANDARDS APPROVED

(Continued from page 1)

the second set should then be opened and used as the official standard.

The question of the division of votes between the European organizations was also brought up, but Doctor Taylor, in addressing a general session of the conference, stated that this was a matter to be arranged for by the Europeans themselves, and that if the European associations "find themselves able to get together on a plan of voting that is agreeable to all of them that they notify the Secretary of Agriculture to call a conference in London in the latter part

of April or the early part of May, when all of these matters will be taken up in the regular formal way."

European Associations Represented

The following European delegates are attending the conference: I. J. Kalmon and George H. Hoyer, of the Rotterdam Cotton Association; Heinrich Westerschulte and Edmund Breyer, of the Bremen Cotton Exchange; H. Robinson, William Heaps, and Fred Tomlinson, of the Manchester Cotton Association; Capt. S. Palle, of the Havre Cotton Exchange; Marsilio Volpi and Rodolfo Kronauer, of the Associazione Cotoniera Italiana, Milan; Robert P. Pfieger and L. F. Francois, of the Ghent Cotton Exchange; and Armando Pin De Latour and Pedro Marques, of the Centro Algodonero de Barcelona.

Representatives of American cotton organizations include: Messrs. W. R. Humphrey and W. A. Stribling, of the American Cotton Shippers' Association; Fred W. Knight, of the All-Russian Textile Syndicate; Henry T. Dumbell, of the New York Cotton Exchange; C. A. Francis, of the New Orleans Cotton Exchange; Joseph A. Tripp, representing the New England Cotton Buyers' Association and Arkwright Club; K. E. Womack, representing the Houston Cotton Exchange; William R. Meadows, representing the Chicago Cotton Exchange.

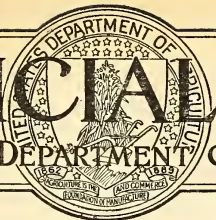
A proposal to invite the British representatives to participate informally met with unanimous approval of the official delegates, and Messrs. J. H. Clegg, J. G. Clayton, Edward N. Frimston, and A. C. Nickson, of the Liverpool Association, and Messrs. Fred Holroyd and Joseph Wild, of the Federation of Master Cotton Spinners, were seated.

RATS ATTACK ORANGE PACKING HOUSE

The Biological Survey recently investigated rat depredations in the orange packing houses in the citrus sections of California, where the rat has adapted itself to local conditions and has become a serious pest. The leader in rodent control work in California reports that rats seem especially fond of citrus seeds, showing a preference for those of grapefruit. In moving over and among the fruit in storage they carry the spores of decay on their feet and claws. A poison demonstration was given, in which lemon and orange seeds, a by-product from a citrus factory, were treated with the strychnine and together with Hamburg steak containing barium carbonate were distributed thoroughly within several buildings. The result was the complete disappearance of the rats.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MARCH 25, 1925

No. 12

RENICK W. DUNLAP IS ASSISTANT SECRETARY

Long a Leader in Farming and Livestock Raising. Takes Up Work First of April

Renick W. Dunlap, of Pickaway County, Ohio, an active farmer, and a man who has had great influence on the development of agriculture in his State, was appointed on March 16 to be Assistant Secretary of Agriculture. He will take up his work April 1, coming directly from the management of his farm and farms owned by his father in the Scioto Valley.

Mr. Dunlap was born in Pickaway County in 1872 and has spent practically all of his life farming. He comes from a family long identified with agriculture and the improvement of livestock. His father, Nelson J. Dunlap, began farming on one of the farms he now owns soon after his return from the Civil War and is known as one of the most successful farmers in that part of Ohio. The elder Dunlap's holdings now include 1,000 acres of good crop land, although he has given three good farms to his children. All of this land was acquired from the profits of farming. Most of the Assistant Secretary's ancestors, his uncles, and many of his cousins on both sides of the family, were or are farmers, breeders, and feeders of livestock. The family has been engaged in these activities since the colonial period. His great-grandmother was a granddaughter of Benjamin Franklin.

Graduate of College of Agriculture of Ohio

Mr. Dunlap received his early education in the district school, and later attended high school while he lived on the farm, and spent his spare time helping carry on the farm work. He entered the College of Agriculture of Ohio State University in 1890 and was graduated in

1895. Since then he has spent most of his time on a farm near Kingston, Ohio. Until 1923 he operated this place as a grain, cattle, and hog farm and since then has added a dairy. He was one of the early members of the Grange, in which he has ever since been active, and has been a member of the Farm Bureau since its organization.

Early Advocate of Commercial Fertilizer

The first practical demonstration of the value of commercial fertilizer in his community is credited to Mr. Dunlap. The first year after his graduation from the agricultural college he used commercial fertilizer on his wheat land and raised more wheat on 50 acres than his father did on 150 without commercial fertilizer. He introduced alfalfa and demonstrated it could be successfully grown in the Scioto Valley. He also built the first silo in his community and was one of the first to feed properly balanced rations to fattening cattle and hogs. Although he is a firm believer in well-bred livestock, he is a practical man and many times has bought up feeder steers of average breeding when they could be bought at a lower price which seemed to give him a better show for profit making. His long experience in the livestock business has given him a wide acquaintance with markets throughout the Middle West and the South and East. In addition to the feeding of cattle and hogs he has been a breeder of purebred Shorthorns and Durocs and has exhibited his best animals at county fairs and at the Ohio State Fair. He has also acted as judge of horses, cattle, and hogs at many fairs and expositions and is a regular attendant at the International Livestock Exposition.

Mr. Dunlap has served his community and his State in a variety of ways and also has been active in various livestock and agricultural organizations. His first public office was as president of his township school board; his next was that of State senator, representing the district composed of Franklin and Pickaway

(Continued on page 5)

FOREIGN ANIMAL DISEASES A MENACE

Department Opposed to Introduction of Virus for Experimentation in This Country

That it is of the utmost importance for the protection of the livestock industry of this country to avoid any chance of introducing foreign diseases requires no demonstration. Experience with some of these enemies in the past has been sufficient to convince livestock sanitary authorities that no unnecessary chances should ever be taken. Outbreaks of such diseases as foot-and-mouth disease and European fowl pest, as well as a number of others, have shown what enormous damage can be done in a short time. As a result it is the policy of the department to discourage any attempts to study these diseases in this country.

Within recent weeks a request was received by mail from an investigator who desired to bring into the United States from China certain small rat-like animals known as hamsters. The writer explained that the only peculiarity of these hamsters was that they had been artificially infected with kala azar, a disease that seems in nature to be peculiar to man. If the little organism responsible for the disease gets into a man's blood stream, it causes great disturbance in his spleen. It is a dangerous disease well known in the Orient and an enemy of man which certainly is not wanted in this country. The inquirer was promptly informed by the department of its absolute and unqualified disapproval of the introduction of animals having this disease.

Virus of Foot-and-Mouth Disease Destroyed

Last week a Swiss, who described himself as a watchmaker, arrived at the main office of the Bureau of Animal Industry carrying with him a bottle of

attenuated virus of foot-and-mouth disease. He had brought it from Switzerland with the idea of trying it out in this country as a means of fortifying the herds and flocks against this disease by giving them mild cases. Needless to say, he left the sample at the bureau, where it was destroyed. His tests of the product will be carried on, if at all, in some other country.

Within the past year there have been two striking examples of the great economic loss which may result from the inroads of just such foreign pests and of the danger of widespread disaster to some of our greatest industries. The outbreak of foot-and-mouth disease among the livestock of California, and also in Texas, was the concern of the entire country. The seriousness of this disease of cloven-hoofed livestock was shown by the quick action of Congress in providing money to combat it with all possible force and speed. Because of the great contagiousness of this plague of livestock and of the possibility of the establishment of a permanent drain on the cattle, swine, and sheep industries, the department guards against the introduction of the contagion to the best of its ability and has never permitted experimental work with the disease in this country. In the recent second deficiency act, passed by Congress, money was provided for carrying on work on this disease by our scientists in countries where it exists regularly.

Must Observe All Precautions

In connection with the recent European fowl-pest case, the department wishes to emphasize that it does not permit the importation of animals from countries having destructive animal diseases not present here. The department also believes that the security of some of our greatest industries depends upon the observance of all precautions, not only by those engaged in commerce with foreign countries but by those engaged in scientific work. If it is against the policy of the department to study dangerous foreign diseases in this country, the same should be observed by other institutions.

"We can only surmise," said Doctor Mohler, "what losses we have escaped through the consistent enforcement of our rigid quarantine regulations. Furthermore, it seems from past experience in this and other countries that the place to study dangerous foreign pests and diseases is in the countries where they exist and not in laboratories here, where there is a potential danger that they may escape to do damage to our animal industry."

Fortunately, it is a rare occurrence for a dangerous disease to get past the barriers that have been raised to keep livestock diseases out of this country. There have been a number of outbreaks of foot-and-mouth disease in the past 40 years which have been stamped out by rigorous methods of suppression found necessary by the bureau veterinarians. There have been a few outbreaks of other animal diseases foreign to this country, including the present outbreak of the European fowl pest. Only those well acquainted with disease conditions throughout the world know what we have probably escaped by maintaining quarantine walls and by sending inspectors into foreign countries. Only recently there arrived from east Africa a scientist who carried with him a sample of hog blood which, had it escaped, might have proved a greater menace to the swine industry of this country than hog cholera ever was. This man, after his 9,000-mile journey, brought the sample to the office of the chief of the Bureau of Animal Industry. It was promptly carried to another floor of the building and consigned to an incinerator. Here it was at once burned and ceased to be a danger to the thousands of hog growers in the country. The gentleman from east Africa had the best of intentions. He wished to have the scientists who had been so successful in combating hog cholera in this country work on an unknown disease which was causing great losses to swine growers in his country. He described it as a disease which is more contagious than hog cholera and kills the animals in much shorter time and in much greater numbers. It would, indeed, have been an effective demonstration of international friendship if the department's scientists had been able to solve the problem of the farmers in east Africa. But the risk taken is much too great. The place to study this unknown enemy is in east Africa.

Scientific Basis Urged for Fur-Animal Legislation

The Biological Survey is cooperating with State conservation and game commissions in encouraging the enactment of uniform trapping laws in zones having similar climatic conditions. Fur-bearing animals as a natural resource to be perpetuated are studied with a view to ascertaining the status of each species before recommending legislation for or against it. Such animals as beavers, raccoons, and muskrats are to be classed as fur bearers rather than as game animals,

as they are trapped primarily for fur and not for food.

Three months is a sufficiently long open season for any fur-bearing animal, according to the Biological Survey, and the bureau is recommending legislation to this end. It is also urging that trappers be required to make annual reports of the number of each species taken, for data thus obtained will provide a sound foundation for a survey of the annual kill and its relation to the breeding supply, or, as it may be termed, the capital stock. It is on such surveys that protective measures should be based, for an intelligent estimate of the fur resources of a State will greatly simplify the framing of legislation of a beneficial nature. A wide dissemination is urged of information concerning fur-bearing animals by State game officials, State departments of agriculture, and State universities, because of its helpful influence in creating a sound sentiment for the enactment of proper legislation.

New Alaska Game Commission Appointed by Secretary Jardine

Secretary of Agriculture Jardine has announced the appointments of the newly authorized Alaska Game Commission, with Charles T. Gardner, Juneau, as commissioner for the first judicial division of Alaska; Thomas D. Jensen, Nome, for the second; Dr. Will H. Chase, Cordova, for the third; and Dr. Preston S. Whitney, Fairbanks, for the fourth division. These commissioners, with Ernest P. Walker, representing the Bureau of Biological Survey, as executive officer and fifth member of the commission, will have their headquarters at Juneau, the Territorial capital. Under the Alaska game law, approved January 13, 1925, which supersedes all laws now in effect in the Territory relating to Alaskan game and land fur-bearing animals, this commission is authorized to employ and discharge game wardens and otherwise administer the provisions of the law. Under this new law the taking or possessing of all wild animals and birds is prohibited, except in accordance with regulations to be promulgated by the Secretary of Agriculture after conference with or on recommendation of the commission.

While the total number of boys and girls enrolled in 4-H clubs during 1923 was 462,160, there were over 2,939,000 rural boys and girls of average club age—that is, 10 to 18 years—not attending school, as shown by a study of Bureau of the Census figures for 1920 recently made by the Office of Cooperative Extension Work as an aid in forming plans for future boys' and girls' club work.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

INTENTIONS-TO-PLANT REPORT ISSUED

A report showing the acreages that farmers intend to plant to various crops this year was released by the Federal Crop Reporting Board at Washington on March 19. This report was based upon the statements of thousands of farmers in all parts of the country, 140,000 questionnaires having been distributed by the crop board. Interest in the report, which shows whether farmers as a whole intend to plant more or less of these crops than last year, centered mainly in spring wheat, potatoes, corn, flax, oats, and tobacco.

WORLD WHEAT ACREAGES INCREASED

Revisions of the winter wheat acreage in India and some of the European countries, together with a new estimate for Estonia received by the department, bring the total acreage of 16 countries reported to date up to 124,465,000 acres compared with 120,748,000 acres for the same countries last year, an increase of 3,717,000 acres.

MOHAIR PRODUCTION INCREASED

Mohair production in the United States last year was around 10,043,000 pounds as compared with 8,651,000 pounds in 1923, according to estimates by the department. Mohair production in this country has been steadily increasing during recent years, production in the six States in 1909 having been 6,532,000 pounds.

ICE-CREAM PRODUCTION DECREASES

Ice-cream production in the United States last year was 9,000,000 gallons less than in 1923, production for the year being 285,550,000 gallons as compared with 294,900,000 gallons in 1923, according to figures compiled by the dairy products marketing division of the Bureau of Agricultural Economics. Figured on a per capita basis, the consumption of ice cream per person was 2.56 gallons in 1924, compared with 2.68 gallons in 1923 and 2.43 gallons in 1922.

\$80,000,000 GAS TAX PAID IN 1924

Nearly \$80,000,000 was collected from the motorist in the form of gasoline taxes in the year 1924 and was used or is available very largely for road maintenance and construction, according to the

Bureau of Public Roads of the department. Thirty-five of the 48 States and the District of Columbia imposed a tax, the rate ranging from 1 to 3 cents per gallon in all States except Arkansas, which levied a 4-cent tax. Although 35 States impose a gasoline tax, it affects only about half of the motor vehicles, since several of the States which do not impose a tax have large registrations. The amount paid annually by the average motorist where the tax is collected is \$10.30 per vehicle.

MOROCCAN CROP CONDITIONS FAVORABLE

Increased acreage and favorable crop conditions in Morocco are reported to the department from the International Institute of Agriculture at Rome. The wheat acreage is placed at 2,656,000 acres against 2,332,000 acres, the final estimate for last year. The area sown to barley is given as 3,707,000 acres compared with 2,981,000 acres for the 1924 crop.

BULLETIN ON CARE OF FARM WOODLANDS

"A knowledge of farm forestry, applied along simple lines, should make farming more profitable," according to the bulletin, *Forestry Lessons on Home Woodlands*, just revised by the department for general distribution. The bulletin gives the farm woodland a distinctive place in the management of the farm and in the development of the community. The various chapters take up the important local kinds of trees and their uses, the proper location of woodlands on farms, their economic value, the different farm timber products, measuring and marketing timber, utilizing timber correctly, protecting and improving woodlands, and planting young timber.

Veterinary Colleges Show Gain in Number of Students

An increase in the number of students in veterinary colleges of the United States during the current school year is reported to the Bureau of Animal Industry of the department. Owing to its need for qualified veterinarians in Federal meat inspection and other livestock work, the bureau for many years has studied the trend of veterinary education and has aided the colleges in planning courses of study.

The total student enrollment this year in all the accredited veterinary colleges in the United States and the one in Canada is 590, compared with 571 a year ago, and as against 738 for the year

preceding that. The gain, though slight, appears to mark a turning point in a field of technical study which many factors have influenced in recent years. Motor transportation, by supplanting animal power to a large extent, has been a depressing factor, while, on the other hand, interest in suppressing animal diseases and improving livestock sanitation has been gradually increasing. The very active nation-wide campaign to eradicate tuberculosis among farm animals is a conspicuous example.

There are 15 accredited veterinary colleges in this country, whose graduates are eligible to take the civil-service examinations for positions in the Bureau of Animal Industry. In addition, there are 10 foreign veterinary colleges accredited. In a review of veterinary education for the school year 1923-24, Dr. John R. Mohler, chief of the bureau, states in his report to the Secretary of Agriculture that the number of veterinarians graduated from the American and Canadian institutions was 160, as compared with 241 the previous year. The present school year, 1924-25, shows, however, an increase in the number of freshmen, which sustains the belief that veterinary education is gaining ground and the profession is proving more attractive to young men. That the technical standards of the profession are higher than formerly is evidenced by the present four-year course of training which a few years ago supplanted a three-year course. This extra period of study is held partly responsible for a temporary falling off in enrollment.

NYUSDA CLUB TO BROADCAST TALKS

Dr. H. B. Shaw, chairman of the Committee on Information of the Nyusda Club, has succeeded in making arrangements with Station WNYC, of New York City, operating on a wave length of 526 meters, to broadcast talks by members of the club, illustrating the different activities of the United States Department of Agriculture. The following program has been arranged for the evenings of the dates indicated:

March 21—W. R. M. Wharton, chief, Eastern District, food and drug inspection, on "Government Control Justified Faith in Food"; March 28—Dr. H. W. Redfield, chief, New York Station, food and drug inspection, on "What are Imitation Foods?"; April 4—J. A. Scarr, meteorologist in charge, New York Station, United States Weather Bureau, on "Weatherwise and Otherwise"; April 11—Dr. H. B. Shaw, pathologist in charge, New York Station, Federal Horticultural Board (Plant Quarantine Station), on "Uncle Sam's Defenses Against Invasion by Plant Enemies."

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Grain Futures Administration

MEMORANDUM No. 522.—March 13, 1925.—Mr. Chester Morrill having resigned from the department, Dr. J. W. T. Duvel, in charge of the Chicago office, is hereby designated as acting in charge of the administration of the grain futures act, effective March 13, and to continue until further order.

Packers and Stockyards Administration

MEMORANDUM No. 523.—March 13, 1925.—Mr. Chester Morrill having resigned from the department, Mr. G. N. Dagger, chief of division of rates and practices, is hereby designated as acting in charge of the administration of the packers and stockyards act, effective March 13, and to continue until further order.

Appointments Without Compensation

MEMORANDUM No. 524.—March 16, 1925.—The administrative regulations of this department are hereby amended by inserting, after paragraph 405, the following:

405. 1. APPOINTMENT OF COLLABORATORS WITHOUT COMPENSATION.—Appointments of collaborators for services recognized and agreed to as gratuities will be without compensation. Where an appointee is to perform a specific service a definite remuneration will be indicated in the appointment paper and a title employed which shall properly describe the character of the contemplated service.

All bureaus employing collaborators will, on December 31 of each year, prepare lists thereof, with showing as to each name whether active service is being rendered or is in prospect. Such lists will be forwarded to the office of personnel; and where they indicate that appointments are properly terminable, recommendations to that effect will at the same time be separately transmitted to the Secretary.

In general, individuals engaged in commercial enterprises will not be considered for appointment as collaborators.

The regulation abolishes the so-called "nominal compensation" in appointments for purely gratuitous service. More important than the direct economy effected by the change is the saving in the bureau accounting offices and in the disbursing office of material labor in the vouchering and recording of the salary payments and in the writ-

ing of checks. The theory of legal objection to unsalaried service, in which the practice of appointment with nominal compensation probably had its origin, is rejected by the Comptroller of the Treasury, who has held, 27 Comp. Dec., 132: "An appointment to serve without compensation which is accepted and properly recorded is not a violation of the statutory inhibition against acceptance of voluntary service, and is valid if otherwise lawful."

CONFERENCES

A mimeographed pamphlet entitled "Conferences." by Edward E. Hunt, Department of Commerce, has been received in the Office of the Secretary. It gives careful instructions and cites specific examples for planning, organizing, directing, and recording the results of conferences, all of which should render valuable assistance to those persons who intend calling conferences of any nature whatsoever. Throughout the booklet the author has placed special emphasis on advance planning, stating that "whatever the project and whatever the procedure, however important the sessions may be and whatever may be their scale, careful preparation is sure to show itself in the final results. * * * planning is all important." Emphasis is also laid upon the importance of putting things in writing and strictly adhering to accuracy therein. The pamphlet is now filed in the department library, where it is available for consultation or loan.

WHEN WORKS JUSTIFY FAITH

Prompt attention to individual requests for help, addressed to the department, is undoubtedly appreciated, but the recipients of personal answers, bulletins, and other information do not always take the time or trouble to express this appreciation. The Bureau of Home Economics received early in January a letter from which the following is an excerpt:

"I'm writing to ask if you will please send me some pamphlets on domestic economy and to ask if you will please pass on my request to some very understanding person * * * who will sense my needs; those of a new wife with no experience with cooking or chemistry—a very limited budget for 3 meals daily at home; equally limited menage—one-room painter's studio * * * ; husband * * * needs a diet."

All correspondence referred to the Bureau of Home Economics is given very careful attention, and this writer received a helpful letter, accompanied by a number of suitable Farmers' Bulletins on household subjects. Her letter was further referred to the Bureau of Public Roads, the Woman's Bureau of the De-

partment of Labor, and the Public Health Service, for information on points not covered by home economics publications. Full appreciation of this material was immediately expressed by the woman who received it. She wrote:

"An appeal that reached you for pamphlets covering the needs of an artist's one-room menage has brought me a fund of useful information and I'm very grateful to you for the consideration you have given my rather vague requests, vague because I had no idea what material was available, nor to whom to write.

"I'm specially gleeful over your having sent me so much that I can put to immediate use because my jeering skeptic of a husband predicated that at the end of 6 months I'd receive 12 packages of seeds and a booklet concerning the game birds of the Adirondack region!

"Now he, too, is reading with much interest all you have sent. I find the pamphlets very well written, clearly put and helpful synopses, and absence of technical terms."

DEPARTMENT COLLABORATOR IN EUROPE

Marcellus W. Meek, of Arcadia, Calif., a recently appointed collaborator of the Biological Survey, is on his way to Europe to investigate the raising of rabbits in England, France, Belgium, and Holland, where the business is conducted on a large scale.

Mr. Meek, who is himself engaged in raising domestic rabbits extensively both for meat and for fur, will visit the agricultural departments of the various countries in which he will carry on his investigations, for the purpose of obtaining information on cost of production and other factors in the rabbit industry. His report to be submitted to the bureau will be of value to the department, as well as to the rabbit breeders of the United States.

The Biological Survey has been instrumental in assisting in the development of the rabbit industry in this country to a stage where it promises to prove a profitable side line to general farming. Its publication on the subject of rabbit raising, Farmers' Bulletin No. 1090, has been reprinted several times, as was its predecessor, Farmers' Bulletin No. 496, published in 1912.

More than 36,800 people visited the twelfth annual amaryllis show held last week by the department in its greenhouses. Toward the end of the week the choice lighter shades opened, so that those who saw the display at that time were afforded the best opportunity of seeing the latest developments along that line. A larger number than ever before of these light shades and the pure white blossoms were exhibited this year as a result of the continued work on these hybrids.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What effect has the freezing of canned foods on their quality and flavor?

Answer. Department Bulletin No. 196, entitled "Methods Followed in the Commercial Canning of Foods," states: "Most canned foods will stand a little freezing without appreciable change. Repeated freezing and thawing cause the goods to become flabby and give a flat taste. In all cases the interior of the cans shows a distinct attack upon the tin. With fruits the coating of the cans is made to appear as though it were galvanized. Canned foods will resist a fair degree of heat or cold without serious injury but continued heat or a very high temperature or repeated freezing and thawing will cause deterioration in quality." The Bureau of Chemistry is of the opinion that if the containers of frozen foods are not burst or ruptured in any way that would permit the entrance of microorganisms such as molds, yeast, and bacteria, the food products will remain wholesome and may be eaten with safety.

Question. What are the office hours required by law in Government offices in cities outside of Washington, D. C.? Is it true that seven hours are required in Washington and eight outside of Washington? Also, are field employees entitled to Saturday half holidays during certain months of the year the same as in Washington?

Answer. The act of March 3, 1893, 27 Stat. 715, as amended by the act of March 15, 1898, 30 Stat. 316, provides that it shall be the duty of the heads of the several executive departments, in the interest of the public service, to require of all clerks and other employees, of whatever grade or class, in their respective departments, not less than seven hours of labor each day, except Sundays and days declared public holidays by law or Executive order. The solicitor states that there is no law for employees in the field working eight hours and that the law only requires at least seven hours' service. However, paragraph 497 of the administrative regulations provides that the chief of bureau may fix the hours of duty in the field, with due regard to the requirements of the public service. An Executive order of the President, dated June 16, 1924, is quoted as follows:

"It is hereby ordered that from the second Saturday of June to the second Saturday of September, both inclusive,

of each year until further notice, four hours, exclusive of time for luncheon, shall constitute a day's work on Saturdays for all clerks and other employees of the Federal Government, wherever employed; and all Executive or other orders in conflict herewith, except the Executive order of April 4, 1908, relating to certain naval stations, are hereby revoked: *Provided, however,* That this order shall not apply to any bureau or office of the Government or to any of the clerks or other employees thereof that may for special public reasons be excepted therefrom by the head of the department or establishment having supervision or control of such bureau or office, or where the same would be inconsistent with the provisions of existing law."

SEEK MORE GYPSY-MOTH PARASITES

In connection with the gypsy-moth and brown-tail moth investigations, conducted by the Bureau of Entomology, S. M. Dohanian, of that bureau, sailed for France on February 11. He will make arrangements at Cherbourg and at Paris for the handling of shipments of parasites of the gypsy moth and the brown-tail moth which may be sent to Melrose Highlands during the coming season. He will then proceed to Spain and Portugal and, if suitable gypsy-moth infestations can be located, will carry on several field laboratories during the summer in both countries. The purpose of this work is the continuation of the introduction of gipsy moth parasites and predators into the moth-infested areas in the United States.

On February 21 R. T. Webber and P. B. Dowden sailed for Bremen, Germany, to continue the foreign studies of the gypsy and brown-tail moths in central and southeastern Europe. They will establish several temporary field laboratories from which parasites will be sent to Melrose Highlands for study and liberation in this country.

T. H. Jones will sail for Bremen on April 4 on a quick trip to central Europe to help collect and bring back the gypsy-moth parasites which Messrs. Webber and Dowden will have at that time. He expects to arrive in Melrose Highlands near the end of May with this material, which will need constant attention en route.

Thomas D. Jensen, of Nome, Alaska, one of the members of the newly appointed Alaska Game Commission, was a recent visitor at the department on his way to Juneau, which will be the headquarters of the commission.

RENICK W. DUNLAP IS ASSISTANT SECRETARY

(Continued from page 1)

Counties. While in the legislature he introduced a commercial feedstuffs bill which was enacted into law and which has proved to be of great value in protecting users of commercial feeds. He was chairman of the agricultural committee and a member of the finance committee. In 1906 and 1908 he was elected State dairy and food commissioner. While in this position he did much to drive from the markets impure and misbranded foods, drinks, and drugs. The system of dairy inspection and the office of dairy inspector were established during his administration, as well as the office of State sealer of weights and measures.

After retiring as State dairy and food commissioner he went back to farming and continued until 1915, when he was chosen secretary of the State Board of Agriculture. He resigned this place after eight months and spent the next three years in Florida as manager of a 60,000-acre ranch owned by an Ohio corporation. This gave him an opportunity to learn much of southern agriculture, as he handled cattle, hogs, field crops, and fruits on the Florida place. He spent the greater part of the winter of 1923 and 1924 in Wisconsin, where he studied the methods of many of the best dairymen and the selling and distributing methods in use by the dairy concerns in the State.

Mr. Dunlap is a Mason, Knight Templar, and Shriner. He is not a member of any church, but he is a regular attendant at the Presbyterian. He is a married man and has one son and one daughter.

To determine the net weight of heavy packages of foods, the inspectors of the field stations of the Bureau of Chemistry use a steelyard and tripod holder of special design. The steelyard is especially useful because of its accuracy, its portability, and the ease with which it can be manipulated. It has a capacity of 160 pounds and is accurate to one-half ounce. The steelyard was designed and made for the purpose by a large scale manufacturing concern, but the tripod is the invention of Mr. H. C. Moore, an inspector of the Bureau of Chemistry, and can be built by any mechanic. It is made of ordinary gas pipe, is light in weight so that it can be transported easily, and is readily demountable. It is particularly useful in making wharf inspections or in those places where there is no beam from which to suspend the steelyard, and it is especially adapted for the weighing of flour, potatoes, feeds, fruits, and vegetables.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

UNIFORM GINNING OF PIMA COTTON

A tendency on the part of some manufacturers of fine cotton goods to discriminate against the Pima cotton of Arizona led to a study by the department to determine the cause. It was found that the mechanical condition of the Pima cotton in the bales was uneven and that the varied appearance of the cotton from different bales led the buyers to believe that the quality of the fiber was lacking in uniformity. In reality, however, the select Pima variety is much more uniform than any of the seed stocks that were secured from Egypt, from which this new variety was developed. The uneven appearance of the cotton in the bales was found to be due to a great diversity of ginning methods and of mechanical equipment in use among the ginners of the Salt River Valley.

The use of roller gins in the United States was limited formerly to the districts in South Carolina, Georgia, and Florida where the sea-island cotton was grown, but is also required for the Egyptian type of cotton, to which the Pima variety belongs. Under the Arizona conditions new phases of the ginning problems have been encountered. The labor costs are higher, so that some of the sea-island methods are less applicable. Several types of roller gins are represented in the different ginning establishments of the Salt River Valley, with cleaning and handling devices of various kinds partly carried over from saw gins, to which the previous experience of many of the ginners had been limited.

These various methods of handling the cotton caused a great difference in the mechanical condition of the fiber, which gave the different appearance to cotton of the same quality in different bales. Thus the essential uniformity of the Pima stock, which has been maintained by careful selection and guarding of the seed supplies, has not been fully recognized or appreciated by manufacturers because the treatment in ginning was not uniform.

Suggestions regarding the proper operations of roller cotton gins have resulted from this investigation and have been urged upon gin operators, as well as the necessity for changing to a more uniform or standardized method of operation.

A practical result developed in the course of the investigation was the perfection of an attachment devised for removing the lint from the gin roller in a manner that straightens the fiber and improves the appearance of the cotton, so that higher grades are secured. This attachment, devised by James S. Townsend, who directed the investigation, has been patented and dedicated to the free use of the Government and the people of the United States. The new device was adopted and used by two of the gin plants in the season of 1923. This may be considered as a practical demonstration, showing that it is possible to secure much greater uniformity in the appearance of the baled cotton and of the commercial samples.

WITH EXTENSION FORCES

EASTERN STATES' CONFERENCE

Problems of agronomy, dairying, and human nutrition common to the Eastern States, and plans for extension aid in their solution were discussed by about 100 administrative officials, supervisors, and specialists from the cooperative extension services of these States and representatives of the department, February 24-26, in New York. The conference, after a general session, met in sections to take up these lines of work.

The study of agronomy matters was coordinated with the need expressed by the dairy section for increasing the production of leguminous roughage in dairy regions. To meet the present problem of obtaining good seed of known origin, a legume-seed improvement committee was appointed to suggest plans for developing supplies of home-grown clover seed and for interesting jobbers and local dealers in carrying alfalfa and clover seed of known origin and high quality.

To aid the growing of corn silage a committee was appointed to plan a survey for the New England States and northern New York to determine the amount and variety needed of seed corn for silage purposes this year, arrange with producing sections of Pennsylvania and New Jersey for locating seed to supply the demand and for having it tested for vitality. This committee will plan for further development of seed production.

The agronomy section agreed that boys' and girls' club work offers an important opportunity for furthering permanent extension work and that the specialists should take increased interest in preparing subject-matter material and plans for use of club members.

High cost of production of dairy products was studied by the dairy section. Methods discussed for meeting the situation were improvement of the type of cows through cow-testing associations, boys' and girls' clubs, purebred-bull associations, and purebred-sire campaigns; establishment of better feeding practices through feeding schools and barn meetings; and production of more leguminous roughage.

The nutrition section discussed methods of developing foods and nutrition work in a community, emphasizing local determination of food and nutrition problems and development of local initiative. Methods of organizing foods and nutrition projects, particularly food selection, preparation, preservation, the food budget, prenatal and postnatal nutrition of the mother and nutrition of the infant, the preschool child and the school child were also studied.

Regional plans adopted for future extension work in nutrition contemplate training schools in subject matter for agents, use of well-trained local leaders and improvement of demonstrations. Development of the growth work in connection with boys' and girls' club projects, based on the idea that the club member should be his own best exhibit, was urged.

A special feature of the nutrition section's program was a lecture demonstration by Dr. Hugh Chaplin, pediatricist of New York City, on the outward manifestations of good growth and good nutrition, staged through the courtesy of the American Child Health Association at the Lincoln School of Teachers' College, and a posture conference, conducted by Miss Harriet Wilde, on the effect of poor posture on nutrition and growth.

Representing the department at the conference were C. W. Warburton, director of extension; C. B. Smith, chief, office of cooperative extension work; Florence E. Ward, in immediate charge of extension work in the Eastern States; C. W. Larson, chief, Bureau of Dairying; W. F. Callander, Bureau of Agricultural Economics; Miriam Birdseye, extension agent in nutrition; O. S. Fisher, extension agronomist; Gertrude L. Warren, extension agent in club organization; and H. W. Hochbaum, field agent, eastern division.

Mihkel Pii, director Plant Breeding Station, Jõgeva, Estonia; Józef Mekurowski-Pomorski, professor of agricultural chemistry, principal school of rural economics, Warsaw, Poland; Jaak J. Umarik, chief agricultural education division, Ministry of Agriculture, Tallinn, Estonia; and Mr. John Pigert, of the Estonian Legation, have spent some time at the department studying methods of extension and agricultural instruction.

BRIEF REVIEWS OF NEW BULLETINS

Rural Highway Mileage, Income, and Expenditures, 1921 and 1922. By Andrew P. Anderson, highway engineer, Bureau of Public Roads. Pp. 85. March 14, 1925. (Department Bulletin 1279.) Price, 15 cents.

This bulletin gives complete data for all rural highways by States with reference to types of roads existing in 1921, mileage constructed in the years reported on, sources of highway funds and how expended, and motor-vehicle registration statistics. The statistics on highway income and expenditure show State funds and those of local units separately. As this publication contains the only report covering the entire road work of the country for any recent year, it will be valuable not only in studying the present highway situation but for the future as a record of highway-improvement progress.

Some Tested Methods for Livestock Improvement. By D. S. Burch, editor, Bureau of Animal Industry, in consultation with livestock, dairy, and extension specialists of the department. Pp. 20, figs. 7. January, 1925. (Miscellaneous Circular 33.) Price, 5 cents.

The need for livestock improvement is apparent on almost every hand, and this bulletin plans to help meet this need by outlining various methods for bringing about more widespread use of superior breeding animals. Among the methods described as having been useful in bringing about improvement are the Better-Sires—Better-Stock plan, boys' and girls' clubs, demonstrations, exhibits, scrub-sire trials, breeders' associations, cow-testing associations, cooperative bull associations, stallion registry, Government horse-breeding ac-

tivities, ton-litter contest, thousand-pound calf clubs, ram rings, poultry-improvement activities, and legislation. Considerable detail is given in the circular concerning the ways these various methods have been used and some of the results which have been obtained.

Spread of the European Starling in North America. By May Thacher Cooke, assistant, division of biological investigations, Bureau of Biological Survey. Pp. 8, fig. 1. March, 1925. (Department Circular 336.) Price, 5 cents.

This publication traces the introduction of the European starling, its methods of spread, and the present extent of its range. Throughout most of southern New England, southern New York, northern New Jersey, and eastern Pennsylvania this species is now very abundant, in some places outnumbering the English sparrow. The barrier of mountains having been crossed, all the Central States will in time be occupied by the starling, but it will probably take many years for the bird to become of economic importance in that region. The northern limit of its range may already have been reached. The undesirable qualities of the starling appear to arise from its choice of nesting sites, its proneness to drive native birds from the vicinity of houses, and the flocking habit. Its food habits are in some cases more beneficial than those of many of the birds it supplants. In places where feeding stands are maintained starlings are liable to consume all the food provided for the other birds. The greatest danger from the starling seems to be from its habit of gathering into large flocks.

ADDITIONAL PUBLICATIONS

Citrus Pectin. By Homer D. Poore, assistant chemist, laboratory of fruit and vegetable chemistry, Bureau of Chemistry. Pp. 20. March 9, 1925. (Department Bulletin 1233.) Price, 5 cents.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 186. Notices of Judgment 12751-12800. Pp. 415-438. March 13, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of March 9-14, 1925. Copies of these publications may be obtained from the stations issuing them.

Annual report of the Director [Delaware Agricultural Experiment Station] for the fiscal year ending June 30, 1924. C. A. McCue. pp. 30.

The growth, returns, and uses of planted cottonwood in Iowa. G. B. MacDonald. (Iowa Sta. Bul. 223, pp. 167-201, figs. 10. Nov., 1924.)

The onion industry in Pleasant Valley Iowa. A. T. Erwin and W. L. Harter. (Iowa Sta. Bul. 225, pp. 267-286, figs. 16. Jan., 1925.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, jr. (Massachusetts Sta. Met. Bul. 434, pp. 4. Feb., 1925.)

Studies on the biology of sewage disposal. Third annual report of the sewage substation for the year ending June 30, 1924. (New Jersey Sta. Bul. 403, pp. 95, figs. 39. July, 1924.)

Analyses of materials sold as insecticides and fungicides during 1924. C. S. Cathcart and R. L. Willis. (New Jersey Sta. Bul. 407, pp. 16. Nov., 1924.)

Weeds of cranberry bogs. C. S. Beckwith and J. G. Fiske. (New Jersey Sta. Circ. 171, pp. 23, figs. 23. Jan. 1925.)

The organization and development of cooperative fire insurance companies in New York. R. W. Bartlett. (New York Cornell Sta. Bul. 435, pp. 36, figs. 7. Dec., 1924.)

Feeding work horses. M. W. Harper. (New York Cornell Sta. Bul. 437, pp. 59, fig. 1. Feb., 1925.)

The Cicadellidae of the vicinity of Ithaca, N. Y., with special reference to the structure of the gonapophyses. J. L. Buys. (New York Cornell Sta. Mem. 80, pp. 115, pls. 15. Dec., 1924.)

Genetic relations of five factor pairs for virent seedlings in maize. M. Demerec. (New York Cornell Sta. Mem. 84, pp. 38. Dec., 1924.)

A pathology of the dietary relationships and the pathology of "stiffness" in swine. L. A. Maynard, S. A. Goldberg, and R. C. Miller. (New York Cornell Sta. Mem. 86, pp. 34 pls. 4, figs. 3. Feb., 1925.)

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A week's study of methods used in organizing photographic reference files, types of photographic illustrative material, lantern slide series available in the department and methods of their distribution, and data regarding various kinds of useful illustrative equipment was made in the visual instruction and editorial section of the Office of Cooperative Extension Work, February 4-11, by R. H. Green, preparatory to taking charge of illustrative work at Alabama Polytechnic Institute, Auburn, Ala.

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 Victorian bee Journal [monthly] v. 3, no. 1- Jan. 16, 1922- Melbourne.

CIVIL-SERVICE ANNOUNCEMENTS

- Junior chemist, \$1,860. Vacancies in the Federal classified service throughout the United States, including the Departmental Service, Washington, D. C., and the Forest

Products Laboratory of the Forest Service, Madison, Wis., will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Promotion to higher grades up to \$5,000 a year may be made in accordance with the civil-service rules, provided the employees possess the qualifications deemed necessary for the corresponding advance in duties and responsibilities. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 25.

Plant quarantine inspector, \$1,860-\$2,400. Vacancies under the Federal Horticultural Board, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 25.

Assistant microscopist, \$2,400. A vacancy in the Bureau of Entomology for duty at Tallulah, La., and vacancies in positions requiring similar qualifications, for duty in Washington, D. C., or in the field, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 21.

SCHOOL TRUCK VISITS FARMING GROUPS

An African student in the Hampton, Va., Normal and Agricultural Institute, Paul Cardoso, of Logo, Nigeria, is spending a month with the movable school of Tuskegee Institute, Ala., by arrangement with the Alabama cooperative extension service. A similar opportunity was extended last year to a Hampton student from Africa. Solomon B. Taylora, native of Freetown, Sierra Leone, British West Africa.

The students accompany the extension workers with the movable-school truck on visits to negro farming communities where practical demonstrations in improvement of farm and home conditions are given. Effort is made by the movable-school force to get the men and women of the community to do the actual work in the demonstrations themselves, so that they will be able to continue the improved practices after the movable school leaves. It is for the purpose of studying the methods used in accomplishing this result that the Hampton students accompany the truck, with the intention of using the knowledge in work with their own people when they return to Africa. The acting director of Hampton's agricultural school, D. F. Fenn, in a recent letter to the Tuskegee extension service, states that last year's student, S. B. Taylora, has found his experience with the movable truck of much value.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 13

EXTENSION HELPS FIT PRODUCTION TO DEMAND

Director Warburton Says the Wise Extension Worker Conforms His Programs to Markets

"The primary object of extension work in agriculture and home economics is to promote a more satisfying living on the farm," said C. W. Warburton, Director of Extension, addressing the Fourth Annual Conference of the Middle Atlantic Marketing Officials, at Philadelphia, March 18. "One of the important means by which this object is attained is by so directing the farm business that a greater net profit is returned from the production of crops and livestock. This may be obtained by more economic production, by better marketing, and by fitting production to demand.

Leadership in Colleges

"Fitting production to demand may mean the growing of new crops or livestock products, the increasing or decreasing of crop acreages or livestock according to demand, the growing of products of a better quality, and the packing and handling of these products so that they will bring the best returns in the particular market to which they are sent.

"The wise extension worker studies the markets available to the farmers of his county or State and then fits his extension program very largely to the demands of these markets. Not only is the county agent concerned in fitting extension programs to marketing demands, but so also are the specialists in animal husbandry, in dairying, in poultry, in agronomy, in horticulture, in farm management, in plant pathology, and in entomology. The home demonstration agents, too, may fit extension programs to market needs in those sections where they are aiding in developing home industries.

"Fitting extension programs for crop and livestock production to market de-

mands requires a careful study of the available statistics of present production and market needs. Several of the States have made such studies within the past few years, and some of them have published the results of their findings. The leadership in these fact-finding and fact-organization conferences has usually been found in the agricultural colleges, particularly the extension services. Representatives of all the agricultural interests in the State have usually come together at a conference at the State college and have there been organized into committees to

SECRETARY TO SPEAK AT MEETING

Secretary Jardine will speak and the orchestra of the United States Marine Band will play at an exhibition of Department of Agriculture motion pictures to be given in Central High School auditorium on the evening of Thursday, April 2.

The exhibition will be one of the series planned primarily for department employees and their families. In addition to the features noted, there will be music by an organist, singing of negro spirituals by the Harmonious Quartet, which made a distinct impression at the last exhibition, and four new films, including "A Crop Worth Saving," a four-reeler depicting boys' and girls' club work in the beautiful Acadian section of Louisiana.

Tickets for the exhibition are being distributed to department employees through the offices of the chief clerks of the various bureaus.

study the available facts regarding specific phases of agriculture and to make recommendations for future activities.

"In Virginia, for instance, an agricultural advisory council has been organized with representation from 34 groups, including all the leading livestock and crop associations in the State, the farmers' organizations, the various bureaus of the State government interested in agriculture, the agricultural press, the agricultural committee of the State bankers' association, the agricultural departments of railroads, the State agri-

(Continued on page 6)

SECRETARY JARDINE SEES BRIGHTER FUTURE

In Talk to Newspaper Correspondents Says Farm Production Must Be Adjusted to Demand

"The most painful period of readjustment is now over, and prospects look much brighter for the farmer," said Secretary Jardine to a group of newspaper representatives at the first meeting arranged for the correspondents at his office March 26. "There is real encouragement," he continued, "in the progress that has been made during the past two or three years in correcting maladjustments between agricultural and other prices. Good yields in the main and higher prices for some of the major crops have gradually improved farm incomes.

Farm Products Worth More

"During the past four years we have heard a great deal about the condition existing in American agriculture. There is no dodging the fact that the situation has been severe. Because of a complexity of conditions the prices of farm products during this period have been low, while the farmer has had to pay high taxes and relatively higher prices for the things he had to buy. Many a farmer has been saddled with debt and has had difficulty in meeting expenses. Although still below pre-war levels, the purchasing power of agricultural products has gradually risen. We can look to the future with confidence, but we must recognize that there are many phases of the agricultural situation that still challenge the best thought of the Nation.

"We have heard a lot of talk about what Congress could or should do in the way of legislative assistance to agriculture. During the past several years hundreds of agricultural bills have been considered by Congress and not a few important measures have been enacted

into law. No one takes issue with the thought that Congress can and should help smooth the way for farmers as well as for any other group.

"But all too few people stop to consider that legislation can not accomplish everything. There is not a veritable pot of gold at the end of the legislative rainbow. There is no magic power in legislation as a panacea for agricultural ills. Laws and public agencies can help farmers realize most of their opportunities. They can help farmers to help themselves. But legislation must be sound and must not contain the germ of more ultimate harm than positive good.

"Just as there is a limit to what the legislative branch of the Federal Government can do for the farmer, so also is there a limit to what the administrative departments can do in restoring and maintaining agricultural prosperity. The Federal Department of Agriculture has done immeasurable good in the past, and it is my desire that its services in the future shall be extended and made even more useful to farmers generally.

"In the administration of the department I am going to keep the farmer back home in mind. This will call for close and effective cooperation of this department with other Federal and State departments, State agricultural colleges, experiment stations, and other agencies interested in promoting a sound and prosperous agriculture.

Farmers Must Help Themselves

"But even though the Government extends every legitimate assistance to agriculture, yet the fact remains that the success of farmers will hinge in the main upon their own individual and collective efforts. It is very apparent that farmers have been making important adjustments to meet the situation, but there is much more they may do to help themselves.

"We can have a prosperous agriculture only if the basis on which it is built is sound. While it is true that production in agriculture is not as fully under human control as in industry, yet it is clear that the policies and methods followed by farmers will profoundly influence their earnings. Like the manufacturer, the farmer must study his market and adjust his production to the demands of consumers. He must adopt the most efficient methods of farming which yield him maximum net returns for his capital and labor. He must improve and standardize the quality of his product in order to command the best market prices. And he must market his products in the most efficient way. The spread between prices paid to producers

and prices paid to consumers has become excessively wide and should be reduced for the benefit of both producer and consumer. Cooperative marketing associations efficiently operated will be helpful in eliminating waste in the marketing process and in adjusting and standardizing agricultural production.

"Farming is a highly competitive business. The efficient farmer will succeed; the inefficient farmer will ultimately fail. Sound business methods applied to farming will increase and stabilize the farm income and elevate the standard of living on the farm. A well-balanced and efficient agriculture which supplies an even and dependable flow of products for which there is an effective demand will benefit both producer and consumer."

REPORT ON U. S. MEAT PRODUCTION

The total per capita consumption of dressed meat for the calendar year 1924 was 164.9 pounds, according to a report just issued by the Bureau of Animal Industry. This quantity is 1.1 pounds less than during 1923.

The report also shows the trend of the meat industry for the last 18 years. The figures are based on records of the Federal meat-inspection service, foreign-trade reports of the Department of Commerce, and estimates arrived at by recognized statistical methods. Comments accompanying the tabular matter point out noteworthy changes in meat consumption, production, and foreign trade in the different classes of products. The hog industry and pork supply are subject to the greatest fluctuations, due largely to reflecting changes in the character of the corn crop and in other branches of the livestock industry.

No important changes occurred in quantity of meats imported during 1924, but such imports have totaled only 33,000,000 pounds in each of the last two years. The exports in 1924, however, declined about 23,000,000 pounds, which made the balance of trade in meat products approximately three-fourths of a billion pounds in favor of the United States in 1924. The entire report contains nine mimeographed pages and may be obtained free on application to the Bureau of Animal Industry, United States Department of Agriculture.

"Agriculture in Brazil" was the subject of a recent talk to members of the Bureau of Agricultural Economics by Dr. P. H. Rolfs, formerly director of the Florida Experiment Station, and now connected with the agricultural college of the State of Minas Geraes. Doctor Rolfs was passing through Washington en route to Brazil.

American Scientists To Study Foot-and-Mouth Disease in Europe

In accordance with provisions made in the second deficiency act of the last Congress, pathologists are soon to be sent to Europe to make thorough studies of the foot-and-mouth disease. The reason recognized by Congress in providing \$75,000 for this purpose is that the disease is of such a contagious nature and so full of possibilities of disaster that it is unsafe to harbor even small quantities of the virus anywhere in this country. In a number of countries in Europe the disease exists at all times and investigations can be carried on with plenty of material at hand and with no danger of spreading the disease.

The men selected to carry on the investigations are Dr. P. K. Olitzsky, of the Rockefeller Institute for Medical Research; Dr. Jacob Traum of the University of California, and Dr. Harry W. Schoening of the Pathological Division, Bureau of Animal Industry, United States Department of Agriculture. These men will go first to Berlin, Germany, to investigate the facts back of the recent report of the discovery of the organisms which causes foot-and-mouth disease. It is probable that they will then go to laboratories at Budapest, Hungary, and at Alfort, in France, to make studies of the disease and of the methods used by scientists in these research institutions. Where they will finally establish their headquarters will depend upon the character of the work being done at the various laboratories they visit. These three representatives of the department will make exhaustive studies of all the work so far done and will collaborate with foreign scientists who are working on the same or similar problems.

Dr. John R. Mohler, chief of the Bureau of Animal Industry, in commenting upon this new departure, said: "The five outbreaks of foot-and-mouth disease that the United States has experienced during the past 40 years have been promptly suppressed by the slaughter method. With our present knowledge of the disease, there is no question that this method is the most effective and economical for this country, but we are anxious to find, if possible, a better and more scientific method of combating it."

The plan now being put into effect should result at least in enlarging the knowledge of the disease without at the same time subjecting livestock producers to the danger of great loss.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

INVESTIGATE RECENT GRAIN PRICES

Due to the concern of the department in the recent violent price fluctuations on futures grain markets, particularly in the price of wheat, and in response to numerous inquiries which have been made by various branches of the grain industry, Secretary of Agriculture Jardine announced last week that directions had been issued to the Grain Futures Administration to make a full and immediate investigation and careful study of the situation which has existed on grain futures exchanges during the past few days.

WORLD RICE CROP SHOWS INCREASE

Rice crop reports from Siam bring the total rice production in 15 countries outside of China to 60,566,426 short tons as compared with 56,335,996 short tons in 1923, according to the department. These countries produce 96 per cent of the world crop outside of China.

WHITE MOUNTAIN FOREST INCREASED

Twenty-one thousand acres are to be added to the White Mountain National Forest in New Hampshire as a result of the action recently taken by the National Forest Reservation Commission, announces the Forest Service. This additional acreage, when finally acquired, will bring the total area of Government-owned land in the White Mountain National Forest up to 462,200 acres. The purchase unit, which the Government will ultimately acquire in large part, embraces 960,600 acres.

1924 CROP AND LIVESTOCK VALUED

The combined value of crop and livestock production in the United States last year was \$12,404,000,000, which was \$56,000,000 more than in 1923, when the total value was \$12,348,000,000, according to estimates by the department. The higher figures for last year are due to the increased value of crops over the preceding year, inasmuch as the value of livestock production shows a decline.

VALUE OF 1924 DAIRY PRODUCTS LESS

A decrease of \$66,000,000 in the farm value of dairy products produced in 1924, as compared with 1923, is shown in estimates of the department, which place

the 1924 valuation at \$2,586,148,000, compared with \$2,652,419,000 in 1923. The decrease is attributed to lower prices for all farm dairy products except butter-milk, whey, and skim milk.

SPECIAL FUND FOR INSECT PEST STUDY

The Dried Fruit Association of California, appreciating the value of the stored product insect investigations carried on by the Bureau of Entomology, appropriated \$1,000 in January, 1925, to augment the Federal appropriation for the study of insects attacking dried fruits. This action followed an address before the association by a member of the bureau staff on the lines of investigation of dried-fruit interests which need attention at present.

IOWA LEADS IN TB ERADICATION

With a record of 121,736 cattle tested in February, Iowa took a long lead among the States in the number of cattle given the tuberculin test in a single month. Previous to that month no State had tested as many as 100,000 in 30 days. In addition there were more than 1,270,000 cattle under supervision in the tuberculosis-eradication work in that State, 41 counties being engaged in the campaign. One county, Benton, tested 8,000 cattle during the month. There were 113 veterinarians engaged in the eradication work in the State, a few of them from the department, but the great majority employed by the State.

MAMMALOGIST SOCIETY MEETING

The American Society of Mammalogists will hold its seventh annual meeting in the New National Museum, Washington, D. C., April 8 to 10. Among the papers to be presented will be many of general and agricultural interest, including an illustrated lecture, "On Darwin's Trail in South America," by Dr. Wilfred H. Osgood, of the Field Museum of Natural History, on Wednesday evening, April 8. Doctor Osgood was formerly on the staff of the Bureau of Biological Survey.

The program will be continued in the Museum Auditorium on Thursday, April 9, with papers of general, rather than technical, interest, several of which will be illustrated by motion pictures. Dr. E. W. Nelson, chief of the Bureau of Biological Survey, is scheduled to open this session at 9.30 a. m. with a talk on "The Predatory Mammal Situation." The William P. Harris, jr., motion picture, entitled "Vanishing Game Trails of Africa," will be screened at 3 o'clock

Thursday afternoon, April 9. Employees of the department will be welcome at all except the business sessions.

OUTLINE BOLL-WEEVIL WORK PROGRAM

At the request of the Cotton Production Council of the Association of Southern Agricultural Workers, a meeting of southern experiment station and Federal entomologists, was held at Tallulah, La., on March 3. At this meeting the matter of coordinated investigation of the boll-weevil problem was thoroughly discussed, and with one exception the outline of cooperative experimental work adopted for 1924 at Atlanta, Ga., was readopted. This exception was that, as a standard to be adhered to as closely as possible in all official boll-weevil-control investigations, the methods and record forms employed by the Delta Laboratory of the United States Department of Agriculture as detailed in its instructions to field agents should be employed.

It was agreed that the general testing of miscellaneous proposed insecticides and machines for weevil control should be left to the Tallulah Laboratory, where it can be conducted most effectively and with the fullest study of their comparative values. The "cloud-drift" method of dust distribution from ground machines was recognized as promising and worthy of test by any investigators who may be interested and in position to test it.

In connection with investigations to be conducted under the Purnell Act and with reference to the improvement of rural homes and living conditions it was suggested that further investigations are urgently needed, especially relating to the bionomics and distribution of malaria-bearing and other species of mosquitoes, and also further studies looking to the control of the house fly and other insects possibly associated with it in the dissemination of typhoid fever, and a study of other insect pests which may have an important bearing upon rural health, and particularly where open surface type of closets occur.

It was agreed that experiments are urgently needed to determine the damage actually done by the cotton hopper, and the most effective means of controlling that insect. The conduct of experiments in the Eastern States (Georgia and South Carolina), in which damage apparently caused by the hopper has recently occurred, was especially recommended.

It was suggested that the entomologists should arrange cooperation with the agronomists in studying the effect of nitrate of soda applications upon aphid infestation and the resistance of the plants thereto.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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THE OFFICIAL RECORD is published as a means of communicating to workers and cooperators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

HENRY C. WALLACE SCHOLARSHIP FOUNDED

At a meeting of the Federal Post 824, V. F. W., held on March 23, the following resolution was adopted:

"Resolved, That Federal Post does hereby establish, and will maintain for a period of four consecutive school years, a scholarship in the Lincoln Memorial University to be known as the Henry C. Wallace Scholarship, such scholarship to be awarded to a mountaineer of the Cumberland Gap region who served in the military or naval service of the United States during the World War, preferably overseas, and who was honorably discharged from such service, if he be not now receiving vocational training under the United States Veterans' Bureau: *Provided, also*, That such scholarship may be awarded to a child or relative of such a veteran."

Employees of the department or others interested in this matter may obtain further information by addressing the commander of Federal Post 824, Lester E. Eliff, 5400 Ninth Street NW., Washington, D. C., who is authorized to handle such scholarship funds for the post.

STUDYING HOME WORK IN COUNTRY

Because of the increasing demands which farm women are making on the cooperative extension service for assistance in solving their problems, C. B. Smith, chief, office of Cooperative Extension Work, is spending a number of weeks in counties having home demonstration agents in North Central States to study some of the recent outstanding developments in home demonstration work. Tentative plans for the study include visits to Huron and Lucas Counties in Ohio; Stephenson and McLean Counties, Ill.; Reno, Pratt, and Atchison Counties, Kans.; Scott and Black Hawk Counties, Iowa; with possibly short stops

at other points in these States. The State director of extension work or home demonstration leader, or both, wherever this is possible, will accompany Doctor Smith on his visits to the counties.

Doctor Smith hopes during his visits to consult with the home demonstration agent and representative farm women in each county regarding accomplishments of home demonstration work. He wishes to obtain expression of the farm home maker's viewpoint on features of the extension program through which the the home demonstration staff may aid an even more general recognition of high standards of living for the farm family. Doctor Smith expects to return to Washington in April.

A CORRECTION

In an article entitled "Bureau Aids in Snow Removal," in THE OFFICIAL RECORD for March 18, reference was incorrectly made to the Weather Bureau Station at Princeton, N. J. It should have read "at Trenton, N. J.," as there is no Weather Bureau at Princeton.

OLD PUBLICATIONS WANTED

Duplicates of the following publications are needed to complete the files in one of the bureaus of the department. It will be very much appreciated if anyone having copies of them would forward the same to the editor.

1. Report on Flax, Hemp, Ramie, and Jute. By Charles R. Dodge. 1890.
2. Report on Agriculture in South America. By Almont Barnes. 1892.
3. Wages of Farm Labor in the United States, from 1866 to 1892. 1892.
4. Production and Distribution of Principal Agricultural Products of the World. 1893.
5. Rice: Its Cultivation, Production, and Distribution in United States and Foreign Countries. By Amory Austin. 1893.
6. An Agricultural Survey of Wyoming. By John W. Hoyt. 1893.
7. Bulletin No. 37. Foreign Import Tariffs on Grain and Grain Products. 1903.

The Division of Crop and Livestock Estimates of the Bureau of Agricultural Economics will prepare on the dates for crop reports announced in Miscellaneous Circular No. 37 a special release to be broadcast by radio. This release will be telegraphed to all branch offices for transmission to broadcasting stations with which they have established contacts. Arrangements were made through its radio contact men to release the information beginning with the report issued last week covering stocks on farms and shipments out of county of corn, wheat, oats, barley, rye, and hay.

Weather Bureau Aids in Saving Millions of Dollars' Worth of Fruit

The following night letter to the Secretary of Agriculture affords a striking example of the practical value to fruit growers of the frost service conducted by the Weather Bureau:

POMONA, CALIF., March 3, 1925.

SECRETARY OF AGRICULTURE,
Washington.

Now that danger from frost to citrus crop is over, we take pleasure in advising you of beneficial work done this season by fruit-frost service of United States Weather Bureau under Floyd D. Young. We experienced one of the longest periods of damaging temperatures in years, and yet our Pomona district with heavy orchard heating for 15 nights with the advance information of cold weather and minimum temperature forecasts of Weather Bureau has saved 90 per cent of the crop. Our estimate is for 1,600,000 boxes, which on account of heavy frost damage in other sections means a return of \$6,000,000. Judging by other districts having similar temperatures to ours, not equipped to heat groves, our returns would have been reduced to \$2,000,000. We wish to express our appreciation of satisfactory results.

(Sgd.) SAN ANTONIO FRUIT EXCHANGE.
R. L. KNOX, Mgr.

In a letter of confirmation dated March 5, 1925, Mr. Knox says:

"We wish to advise you of the results of the Weather Bureau's work in this district, as we know they will be of interest to you. We are also desirous of expressing our appreciation for the assistance that your department has given to our industry. This district was the first to cooperate with your department in this work and it is now being recognized by the entire State, and great results will follow, especially after the experience we have had during the freeze this season."

In addition to the above the Weather Bureau conducted fruit-frost work during the season in seven other citrus districts, with a trained meteorologist in charge of each, and in all of these the service was equally satisfactory. Several days of unusually cold weather prevailed in southern California the latter part of December, and during this period more than 3,000,000 gallons of oil was consumed in orchard heating. By reason of warnings of the impending conditions furnished in advance by the Weather Bureau, 175 truck loads and 14 special trains loaded with oil, in addition to the regular scheduled freight service, were rushed into the citrus districts in two days as an emergency supply to meet the expected unusual conditions.

Since the close of the frost season in southern California, similar work is being conducted in the northwestern deciduous fruit districts.

The fruit growers in all cases contribute approximately one-half the cost of the service, which further attests its practical value.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What States have home demonstration agents and how many are there in each State?

Answer. Home demonstration work is conducted in each of the 48 States. The number of county home demonstration agents employed in each State is as follows: Alabama, 38 white and 8 negro agents; Arizona, 5; Arkansas, 40 white and 11 negro; California, 23; Colorado, 2; Connecticut, 7; Florida, 53 white and 8 negro; Georgia, 64 white and 14 negro; Idaho, 5; Illinois, 21; Indiana, 1; Iowa, 13; Kansas, 14; Kentucky, 22; Louisiana, 25 white and 6 negro; Maine, 13; Maryland, 17 white and 1 negro; Massachusetts, 14; Michigan, 6; Minnesota, 8; Mississippi, 42 white and 15 negro; Missouri, 10 white and 1 negro; Montana, 5; Nebraska, 2; Nevada, 4; New Hampshire, 3; New Jersey, 13; New Mexico, 5; New York, 47; North Carolina, 50 white and 5 negro; North Dakota, 2; Ohio, 12; Oklahoma, 47 white and 4 negro; Oregon, 3; Pennsylvania, 14; Rhode Island, 2; South Carolina, 37 white and 5 negro; South Dakota, 7; Tennessee, 28 white and 4 negro; Texas, 86 white and 18 negro; Utah, 6; Vermont, 6; Virginia, 35 white and 6 negro; Washington, 5; West Virginia, 16; Wisconsin, 1; and Wyoming, 5.

Question. Are the cotton standards known as "Universal Standards" to be used as the basis for cotton trading throughout the world?

Answer. The Universal Cotton Standards are mandatory in the United States and have been adopted as the basis of trading in American cotton by all of the important cotton exchanges of Europe with the exception of Liverpool, and there is reason to believe that that exchange will renew its agreement to use the grades. While these standards are for American-grown cotton, they have also been adopted by Argentina and Paraguay as the basis of trading for cottons grown in those countries.

Question. Why are permits required for the entry of foreign wild birds and animals into the United States?

Answer. Permits are required to prevent the entry of any species which might prove injurious to agriculture. These permits are issued free on application to the Secretary of Agriculture and on receipt of a statement showing the name and address of the shipper and consignee, the number of each kind of bird or animal in the consignment, the port of origin, and the probable date of arrival.

The system now in force was authorized by act of Congress of May 25, 1900, which requires permits for the entry of foreign wild animals or birds, and prohibits the entry of the mongoose, flying foxes or fruit bats, the English sparrow, the European starling, and such other species as the Secretary of Agriculture may declare injurious. The requirement of permits is enforced with the cooperation of the Secretary of the Treasury and the officers of the customs.

The law was modeled after an act of Western Australia, but modified to meet conditions in the United States. It stands today as the most comprehensive and success-

ful system of protection against the introduction of injurious species thus far adopted by any country in the world. During the 24 years that it has been in force no injurious species of birds or mammals which had not been introduced prior to the passage of the law have gained a foothold in the United States. The English sparrow, introduced about 1850, and the European starling, about 1890, were both established here before the law was passed, but the mongoose and several other dangerous species have been prevented from gaining a foothold.

The requirement of a permit also furnishes a record of the entry of all birds and animals imported from foreign countries, makes it possible to trace any particular shipment, and furnishes data of importance concerning experiments in acclimatization and information of interest concerning the rarer species which are placed on exhibition in public or private collections. Some of the birds and animals imported for zoological gardens represent species which are very rare or nearing extinction. A careful record is kept of these entries, and from time to time attention is called to some of the more important arrivals.

Question. Is the color of tongues of cattle an indication of the respective breed, or of the hair covering of their skin?

Answer. In the beef breeds, black tongues predominate in Aberdeen Angus and Galloway cattle. The color of hair in both breeds is black. One could not distinguish the two breeds apart by color of hair or tongue. In other beef breeds, the tongues are more or less of flesh color. In dairy cattle breeds, according to the Bureau of Dairying, the color of the tongue is not an indication of the breed nor of the hair covering of the skin. Breeders of Guernsey cattle are selected for flesh-colored tongues and muzzles, but it is not uncommon to find slate or black tongues in the Guernsey breed. The Jersey breed requires the color of the tongue in applications for registry, but this is more of a matter of identification than indication of breed, as both white and black tongues are commonly found in Jersey cattle.

NEW MOTION PICTURES RELEASED

Names and brief descriptions of new motion pictures that have been released by the department within the last several months are given in a recently issued supplement to Miscellaneous Circular 27, Motion Pictures of the United States Department of Agriculture.

The total number of film subjects being distributed by the department is brought to 201 by the following new films, which are listed in the supplement:

The Green Barrier (two reels, Bureau of Animal Industry).

Sheep in Psalm and Sage (one reel, Bureau of Animal Industry).

Suppressing Foot-and-Mouth Disease (two reels, Bureau of Animal Industry).

Weighed in the Balance (three reels, Bureau of Dairying).

Four Men and the Soy (two reels, Bureau of Plant Industry).

Why Strawberries Grow Whiskers (one reel, Bureau of Plant Industry).

The Pines (two reels, Bureau of Plant Industry).

Laying Lumbricus Low (one reel, Bureau of Plant Industry).

Beans or Beetles (one reel, Bureau of Entomology).

Pines—From Seed to Sawmill (two reels, Forest Service).

Pines for Profit (one reel, Forest Service).

Dual-Purpose Trees (one reel, Forest Service).

Wood Wisdom (one reel, Forest Service).

Cooperative Marketing—Cotton (two reels, Bureau of Agricultural Economics).

A Crop Worth Saving (four reels, Extension Service).

Touring with the Grangers (two reels, Extension Service).

Pan and Ceres in the Movies (one reel, Extension Service).

Road Building in the United States (two reels, Bureau of Public Roads).

A Highway of Friendship (two reels, Bureau of Public Roads).

The supplement also gives the names of the following films now in preparation for early release:

"John Doe's Cotton—and Yours," dealing with community standardization of cotton varieties.

"Cooperative Marketing—Tobacco," showing practices of cooperative associations in the North Carolina-Virginia burley and dark tobacco districts.

"Across the Great Salt Desert" and three other films dealing with the western highway construction work conducted by or cooperated in by the Bureau of Public Roads.

"Watching the Weather Above" and "Charting the Upper Air," dealing with the upper-air observation work of the Weather Bureau.

"Board Feet or Bored Timber," showing methods of control for insects that attack forest products.

"A Good Turn for the Forests," telling of the fire menace to our rapidly disappearing forests and Boy Scout activities in preventing forest fires.

"Poor Mrs. Smith," teaching a lesson in appreciation of the advantages of farm life.

CHICAGO U. S. D. A. MEETING

The regular monthly meeting of the Chicago U. S. D. A. Club was held on March 18 at Armour's Cafeteria, Union Stock Yards. Mr. Tage U. H. Ellinger, assistant director of the Armour Livestock Bureau, was the guest and speaker. After the luncheon he personally conducted a number of the members through the Armour packing plant. Twenty-five members and three eligibles attended the meeting.

G. S. Gordeeff, of the faculty of the agricultural academy, Moscow, Russia, is spending some weeks in the department studying recent developments in investigational work and the agricultural extension system. The agricultural academy has enrolled some 2,000 students in courses of plant and animal industry and agricultural economics and Professor Gordeeff is especially interested in information helpful to the academy along these lines. His plans include visits to agricultural colleges and experiment stations in States having soil and climatic conditions similar to Russian areas.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

NEW CITRUS PECTIN METHOD EVOLVED

Not the least among the many achievements of the department are those which have to do with the discovery and perfection of new ways to use waste material. Methods devised to make use of by-products and wasted material from various sources often constitute a means of enlarging a market and increasing the profit of an industry.

The Bureau of Chemistry has developed a new process by which residue from the citrus by-product factories can be used. Lemon, orange, and grapefruit residue, thousands of tons of which are discarded each year at the by-product factories, consists principally of peel, pulp, and seeds. From 1.5 to 3 per cent of such residue, depending upon the ripeness of the fruit, is pectin, which occurs largely as pectos, an insoluble material, in the intercellular walls of the peel.

Pectin is a necessary constituent of jellies and marmalades. When any fruit lacks enough pectin to form jelly, the quantity required to supply the natural deficiency may be added to the jelly stock. The principal source of commercial pectin used in this way has been apple pomace from vinegar factories, but, according to some investigators, the possibilities of producing pectin from citrus by-products also are great. The simple method used in making apple pectin, which consists in dissolving out the pectin from the apple pomace with hot acidulated water and then concentrating it to a viscous sirup, can not satisfactorily be applied to citrus residues. The oils and bitter principle in citrus peel impart a disagreeable bitter taste to the product, making it necessary either to remove them or precipitate the pectin from the solution.

The properties of citrus pectin were studied in the Bureau of Chemistry and methods for its production on a commercial scale were evolved. The best method of extraction was to heat the finely ground peel or residue with acidified water and clarify the expressed extract with kieselguhr. The bitter principle was removed with alcohol from powdered pectin prepared from concentrated solutions of pectin in the laboratory and in a commercial plant.

As a result of the work done in this study, a rapid and dependable method

for making orange jellies and marmalades on a large scale, which standardizes the product as to color and consistency, has also been developed.

EXTENSION HELPS FIT PRODUCTION TO DEMAND

(Continued from page 1)

cultural college, the State farmers' institute, and the extension service.

Oregon One of First

"Oregon was one of the first States to make a thorough study of its agriculture and to draw recommendations accordingly. In October, 1923, the Oregon Extension Service published an agricultural program for Oregon, and on January 23 to 25, 1924, an Oregon agricultural economic conference was held at Corvallis. As a sample of the work done by this conference, I shall refer briefly to the report of the committee on prune production and marketing.

"The committee points out that in 1922 the dried-prune production of California, Oregon, and Washington, the three important producing States, was 300,000,000 pounds, and that the production by 1927, as new trees come into bearing, will reach 400,000,000 pounds. The present production is sufficient to supply the present American consumption at the rate of 1½ pounds per person annually, with 135,000,000 pounds remaining for export trade. This available supply for export will be increased by 1927, unless our per capita consumption increases, to more than 200,000,000 pounds. The committee, therefore, recommends that the acreage of prunes should not be increased, at least until the new trees shall come into bearing, increased production has stopped, and market demands have grown to such an extent that they will at least balance production. They recommend also improvements in size and quality of product, standardization of pack, and advertising to increase consumption.

Good Illustration in Hog Market

"Probably the best way to show the wide range of possibilities in making use of market demands in the building of extension programs is to cite examples of work actually done in the various fields of crop and animal production. For these examples I am indebted to the regional leaders and the specialists in the office of Cooperative Extension Work of the department.

"The hog market furnishes a good illustration of what happens when production is not based on market demands. A graphic representation of hog prices over a period of years is not a smoothly flowing curve, but one with frequent

high peaks and equally frequent depressions. This is due to the ease with which hog production is increased or decreased. The usual tendency of the hog raiser is to retain fewer brood sows when hog prices are low and to increase his production beyond the usual when prices are high. The result, of course, is an overproduction a year or a year and a half following a period of high prices, with consequent rapid fall in the returns to farmers. It is true that corn prices are a large factor in hog prices. Obviously, however, the intelligent farmer will go contrary to the current and will increase rather than decrease his hog production when hog prices are low.

"In Tillamook County, Ore., cheese production was begun a number of years ago to provide a market for the milk produced in the county. Tillamook County is on the west coast of Oregon, with poor railroad facilities and at a considerable distance from the larger cities of the States, so that fluid milk could not be readily marketed. The cheese produced was of high quality, and it soon became well known throughout the Pacific coast. The extension service has aided in increasing the cheese production of the county and at the same time has been instrumental in seeing that the quality was maintained. All the factories in the county have been put under the supervision of one man, practically all of the dairy cattle are of one breed, and everything possible has been done to insure the production of cheese of uniform quality.

"One of the important industries which has been built up in recent years is the production of certified seed potatoes. In 1914 the pathologists of the Federal Department of Agriculture and the State experiment stations began work on the production of disease-free potato seed. The extension service has assisted the farmers in the seed-producing territory to change their practices so as to meet the requirements of the seed-consuming territory. In 1919, 475,000 bushels of certified potato seed were produced. In 1924 the production has increased to 7,500,000 bushels. This is an excellent example of how a special industry can be built up to meet specific market demand. Incidentally, the control of several important potato diseases by the use of certified seed has materially increased acre yields and has enabled farmers to produce the crop more economically."

The Army is one of the largest buyers of hay in this country. During 1923 their purchases totaled 187,286 tons or approximately 15,600 cars. It has been purchasing hay on United States grades for some time.

BRIEF REVIEWS OF NEW BULLETINS

Crop Rotation and Cultural Methods at the Akron (Colorado) Field Station. In the 15-Year Period from 1909 to 1923, Inclusive. By J. F. Brandon, associate agronomist, office of dry-land agriculture investigations, Bureau of Plant Industry. Pp. 28, figs. 9. March 17, 1925. (Department Bulletin 1304.) Price, 5 cents.

The average annual yields of several crops, their response to cultural methods, the effect of a crop upon the yield of the one that follows it, and the possibility of avoiding failure by growing crops of different habit or season indicate that the most stable type of agriculture for this region will be a diversified one with livestock as the main source of dependence and with less emphasis on the cash grain crops. Corn for silage and grain feed and the sorghums for hay and forage offer a reliable and safe foundation for the livestock industry.

Effect of Garlic on the Flavor and Odor of Milk. By C. J. Babcock, assistant market milk specialist, Bureau of Dairying. Pp. 11, figs. 4. March 18, 1925. (Department Bulletin 1326.) Price, 5 cents.

This bulletin describes in detail tests which were made by giving to several persons samples of milk from cows milked at different periods after having been fed garlic and from check cows. It was found that the intensity of the bad flavor and odor increased until it reached a maximum at 10 minutes after feeding the odorous ration. As the time between the eating of the garlic and milking time increased the bad flavor and odor diminished and in seven hours practically disappeared. Not only were the garlic flavor and odor taken in by eating, but it was shown that inhaling garlic for 10 minutes gives strong flavor and odor to the milk.

Power for the Farm from Small Streams. By A. M. Daniels, associate mechanical engineer, division of agricultural engineering, Bureau of Public Roads; C. E. Seitz, agricultural engineer; and J. C. Glenn, assistant agricultural engineer, Virginia Polytechnic Institute. Pp. 36, figs. 40. January, 1925. (Farmers' Bulletin 1430.)

Small streams frequently are neglected sources of power that may be utilized in generating electricity to light buildings and grounds and possibly to operate a number of small machines. To be a sound investment, however, the cost of installation should not be greater than the benefits obtained would justify, for, cautions the department, farm water-power electric outfits have their limitations. In this bulletin an attempt is made to acquaint farmers with the possibilities of developing the power of small streams by converting it into electrical energy. It discusses the uses to which the power can be put. The bulletin also gives information that will enable prospective water-power users to avoid unnecessary expense, and explains how to determine the power a stream will supply.

Carload Shipments of Fruits and Melons from Stations in the United States for the Calendar Years 1920, 1921, 1922, and 1923. Prepared by the Bureau of Agricultural Economics. Pp. 79. February 27, 1925. (Statistical Bulletin 8.) Price, 10 cents.

The rapid development of the fruit industry in the United States during recent years is brought out in figures on carload shipments compiled by the department. More than

450,000 carloads of 17 leading fruits were shipped in 1923, as compared with 346,000 in 1920. The information contained in this bulletin has been compiled from monthly mail reports furnished to the department by about 15,000 station agencies of railroad, express, and boat lines, and is for the convenience of members of the industry in facilitating the successful marketing of the crops.

Carload Shipments of Vegetables from Stations in the United States for the Calendar Years 1920, 1921, 1922, and 1923. Prepared by the Bureau of Agricultural Economics. Pp. 90. February, 1925. (Statistical Bulletin 9.) Price, 15 cents.

Rapid development of the vegetable industry during the past few years has multiplied the problems of successfully marketing the crop produced and has greatly increased the demand for basic statistics relating to the industry. This bulletin shows for each of 18 kinds of vegetables the number of cars billed in any one year, grouped by States and counties. The information has been compiled from monthly mail reports furnished the department by about 15,000 station agents of railroad, express, and boat lines.

ADDITIONAL PUBLICATIONS

Hot-Water Treatment of Dormant and Sprouted Seed Cane. By P. A. Yoder, associate technologist, office of sugar-plant investigations, Bureau of Plant Industry. Pp. 4, February, 1925. (Department Circular 337.) Price, 5 cents.

Journal of Agricultural Research. Vol. 29, No. 12. December 15, 1924. Contents: Life-History Studies of the Tobacco Flea-Beetle in the Southern Cigar-wrapper District. (K-140.) By F. S. Chamberlin, J. N. Tenet, and Adam G. Boving.—The Differentiation of Primary Isolations of *Bacterium melitensis* from Primary Isolations of *Bacterium abortus* (Bovine) by Their Cultural and Atmospheric Requirements. (A-86.) By John M. Buck.—Feed Cost of Milk Production as Affected by the Percentage Fat Content of the Milk. (H-14.) By W. L. Gaines.—Relation Between the Diet, the Composition of the Blood, and the Secretion of Milk of Dairy Cows. (A-88.) By C. A. Cary and Edward B. Meigs. Pp. 575-624, figs. 21. Price, 10 cents.

Notes.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the *Journal* was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The *Journal* is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 187. Notices of Judgment 12801-12850. Pp. 439-463. March, 1925. Price, 5 cents.

Federal Horticultural Board. No. 81. October-December, 1924. Pp. 113-134. March, 1925. Price, 5 cents.

Soil Survey of Andrew County, Missouri. By A. F. Sweet, of the U. S. Department of Agriculture, and H. V. Jordan, of the University of Missouri Agricultural Experiment Station. Pp. 34, fig. 1, pls. 4, map. (From F. O. Soils, 1921.) Price, — cents.

Soil Survey of Choctaw County, Alabama. By Howard C. Smith and Clarence Lounsbury, of the U. S. Department of Agriculture, and J. F. Stroud, of the Alabama Department of Agriculture and Industries. Pp. 25, fig. 1, map. (From F. O. Soils, 1921.) Price, 10 cents.

A Statistical Study of the Relation Between Seed-Ear Characters and Productiveness in Corn. By Frederick D. Richey, agronomist in charge of corn investigations, and J. G. Willier, assistant agronomist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 20. March 21, 1925. (Department Bulletin 1321.) Price, 6 cents.

Swine Production. By E. Z. Russell, animal husbandman in charge of swine investigations, Animal Husbandry Division, Bureau of Animal Industry. Pp. 30, figs. 18. March, 1925. (Farmers' Bulletin 1487.)

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of March 16-21, 1925. Copies of these publications may be obtained from the stations issuing them.

Growth of the eucalyptus in California plantations. W. Metcalfe. (California Sta. Bul. 380, pp. 61, figs. 27. Nov. 1924.)

Controlling the citrus aphid *Aphis spiraeola* (Patch). J. R. Watson and H. Deyer. (Florida Sta. Bul. 174, pp. 79-96, figs. 9. Mar., 1925.)

Work and progress of the Agricultural Experiment Station for the year ended December 31, 1924. E. J. Iddings. (Idaho Sta. Bul. 132, p. 55, fig. 1. Jan., 1925.)

Experiments with subsoiling, deep tilling, and subsoil dynamiting. R. S. Smith. (Illinois Sta. Bul. 258, pp. 153-170, figs. 6. Feb., 1925.)

Correlation studies on winter fecundity. F. Hays, R. Sanborn, and L. James. (Massachusetts Sta. Bul. 220, pp. 43-53. Nov., 1924.)

Thirty-sixth annual report of the Massachusetts Agricultural Experiment Station. Report of the director for the fiscal year ending Nov. 30, 1923. Pp. 137.

Tourist camps. C. P. Halligan. (Michigan Sta. Spec. Bul. 139, pp. figs. 16. Jan., 1925.)

The significance of *Bacterium abortus* antibodies (agglutinins and complement-fixing) found in the sera of calves at birth or after nursing. I. F. Huddleson and D. E. Hasley. (Michigan Sta. Tech. Bul. 66, pp. 16. Dec., 1924.)

Results of seed tests for 1924 made for the State Department of Agriculture. M. G. Eastman. (New Hampshire Sta. Bul. 216, pp. 18. Dec., 1924.)

Roses in the garden. C. H. Connors. (New Jersey Sta. Circ. 172, pp. 27, figs. 14. Nov., 1924.)

Studies in the transplanting of vegetable plants. W. E. Loomis. (New York Cornell Sta. Mem. 87, pp. 63, figs. 21. Feb., 1925.)

The monthly bulletin. (Ohio Sta. Mo. Bul., vol. 9, No. 11-12, pp. 185-223, figs. 14. Dec., 1924.)

Apple blister-mite and its control. L. Childs. (Oregon Sta. Circ. 59, pp. 8, figs. 4. Feb., 1925.)

Protecting South Carolina from plant diseases and crop pests. J. A. Berly. (South Carolina Sta. Circ. 32, pp. 32, figs. 22. Dec., 1924.)

The Rhizoctonia disease of the potato. B. F. Dana. (Washington Col. Sta. Pop. Bul. 131, pp. 30, figs. 6. Jan., 1925.)

CIVIL SERVICE ANNOUNCEMENTS

Laboratory glass blower, \$2,100-\$2,700. A vacancy in the Department of Agriculture, for duty at the American Fixed Nitrogen Research Laboratory, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Applicants should at once apply for Forms 1800 and 2264, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 21.

Exhibits designer, \$3,000. A vacancy in the office of the Secretary of Agriculture, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 21, 1925.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Aereboe, Friedrich. Allgemeine landwirtschaftliche betriebslehre. 6. auf. Berlin, P. Parey, 1923.
- Watts, R. L. Rural Pennsylvania. New York, Macmillan, 1925.
- Welsh journal of agriculture [annual] v. 1, no. 1; January, 1925. Cardiff, 1925.

Old books

- Deby, P. N. H. De l'agriculture en Europe et en Amérique. Paris, 1825.
- Laveleye, E. L. V. Essai sur l'économie rurale de la Belgique. Paris, 1862.
- Lebeuf, V. F. Révolution agricole; ou moyen de faire des bénéfices en cultivant les terres. Paris, 1864.
- Tusser, Thomas. Some of the five hundred points of good husbandry. Oxford, 1848.

DOMESTIC ANIMAL AND VETERINARY MEDICINE

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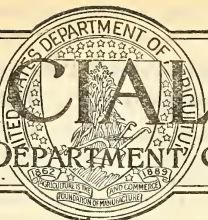
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No. 14

DEPARTMENT AIDS BUDGET ECONOMIES

Secretary Jardine Announces Reductions in Expenses for Regular Work

That the Department of Agriculture is cooperating heartily with the Bureau of the Budget and in accordance with the desire of President Coolidge that Government departments and agencies be operated on a strict program of economy conducive to efficiency, is shown in a report made last week by Secretary Jardine to Gen. H. M. Lord, director of the Bureau of the Budget. This report stated that on the group of expenditures under the department which are subject to administrative control by the department officials, totaling about \$50,000,000 for the present fiscal year, a reduction of \$1,322,460 would be made by June 30 below the estimate made last fall. This is slightly more than 2 per cent, the amount requested by the Budget Bureau in a circular issued on February 20.

Two Per Cent Clubs Organized

It was stated by Secretary Jardine that this reduction in estimated cash withdrawals from the Treasury was made possible only by the most careful shaving of expenses during the remainder of the fiscal year, as the original estimates had been kept to a minimum. One bureau chief in the department formed a "Two per cent club," and each division leader in signing a membership card signified a willingness to reduce his expenses by this amount. A 100 per cent enrollment was reported. The card signed by the division leaders was for probationary membership and stated that "You may attain full membership when the results of your efforts show at the end of the year that your division has been successful in making the saving requested by the President."

In complimenting officials of the department for their cooperation in making the reduction, Secretary Jardine called

upon them to make such other reductions before June 30 as may be possible. At the same time he exploded the ancient theory that every vacancy which occurs automatically calls for an appointment of some one else in the Federal service. The Secretary refuses to recognize this time-honored and expensive custom and has instructed each division head in the Agricultural Department to fill vacancies by absorbing or redistributing the work wherever possible.

"If it becomes desirable to submit a recommendation for an increase in force in order to conduct new work which has been duly authorized," the Secretary said, "such recommendation must show clearly that the addition is absolutely necessary and give the specific reasons which make it so. It will not be possible to give approval to recommendations for new appointments, either by additions to the force or to fill vacancies, except where it is clearly indicated that careful consideration has been given to the possibility of rendering an additional appointment unnecessary."

FORESEES WORLD WHEAT SHORTAGE

The probability of a world wheat shortage in future generations unless rational land and population policies are formulated by the white races of the world is seen by Dr. O. E. Baker, department economist, who has recently completed a study of world wheat production.

The white wheat-eating people of the world now consume some 2,525,000,000 bushels of wheat annually, Doctor Baker says. Allowing for normal population increase, but for no increase in per capita consumption, the requirements of the white races 25 years from now will be 3,200,000,000 bushels of wheat a year.

The requirements 50 years hence will be 4,300,000,000 bushels annually, and a century hence some 5,800,000,000 bushels. Should per capita consumption increase to that of France to-day, which Doctor Baker says appears likely, the total wheat requirements 50 years hence would be 5,500,000,000 bushels annually, and in 100 years some 7,400,000,000 bushels.

NELSON A. CRAWFORD TO HEAD INFORMATION

Comes to Department From K. S. A. C. May 1—Russell Made Assistant to Secretary

Nelson Antrim Crawford, head of the department of industrial journalism and printing at the Kansas State Agricultural College since 1914, has been appointed Director of Information of the department by Secretary Jardine. Mr. Crawford will take up his work with the department May 1. F. M. Russell, who was in charge of Press Service, has been made assistant to the Secretary.

Combines Publications and Press Service

By the appointment of a director of information, the Secretary has recreated an office formerly existing in the department, but done away with a few years ago. The director will have general direction and supervision of all the publication and other informational policies and activities of the department, including the editorial, printing, illustrating, publications, and distribution work heretofore under the Director of Publications; the Press Service, radio broadcasting, and other activities incident to the preparation and dissemination of the results of the work of the department. His work also will take in the coordination of informational activities of the bureaus and offices, the conduct of the business of the department with the Public Printer and the Congressional Joint Committee on Printing, the Permanent Joint Conference on Printing under the Bureau of the Budget, and the administration of the regulations of the department with respect to the outside publication of articles prepared by department people.

Under the Director of Information the Office of Publications and Press Service will be merged in the Office of Information. The office of the director will be in the publications building.

Mr. Crawford comes to the department with a record of successful work

in teaching journalism and in carrying on information and publicity work. He has also done much magazine and newspaper writing, including contributions to national magazines and leading newspapers. He was graduated from the University of Iowa in 1910 and was given his M. A. degree at the University of Kansas in 1914. From 1910 to 1914 he was instructor at the Kansas State Agricultural College, and since 1914 has headed the department of journalism there. During short periods of leave from the college and during vacations he has done a variety of editorial and writing work in many places. Through the period he has been in charge of journalism work at Kansas he has been managing editor of the *Kansas Industrialist*, an outstanding college publication.

SECRETARY GIVES HIS FIRST TALK

Department employees were afforded an opportunity to give Secretary Jardine the "once over," putting it in his own words, for the first time last Thursday night, when he addressed them informally for a few minutes at Central High School during a department program of motion pictures and other features. Among other things Secretary Jardine said that he regarded the time he had spent in the department during the years 1906 to 1910 as the most important period in his career, and welcomed the chance to return to what he considered a great opportunity to be of service to the people of the country. As soon as practicable he will make a trip into the field, he said, to meet as many of the "department family" and associates as possible and to better acquaint himself with what they are doing. The Secretary wants every department worker to feel that he or she has a worth-while part in the work of the department and to that end he intends to see that "efficiency" is rewarded.

An agreement has just been completed between this department and the War Department whereby officers of the Army Veterinary Corps who have been trained in inspecting hay at the Hay Standardization Laboratory at the Bureau of Agricultural Economics while attending the Army Veterinary School will be licensed as Federal hay inspectors. Under this agreement they will inspect hay offered for delivery to the Army on contracts and issue Federal hay inspection certificates for it in accordance with the regulations of the Secretary governing the inspection of hay. Seventeen officers of the Veterinary Corps have already received this training and will probably be licensed at once.

Regulations Provide Pullman Accommodations to Destination

Numerous disallowances by the General Accounting Office in the accounts of the disbursing clerk and other fiscal officers of the department result from the failure of the traveling personnel to observe the provisions of Paragraph 43, Fiscal Regulations. This paragraph provides, among other things, that transportation requests for Pullman accommodations should be issued entirely to destination of railroad ticket or to the point to which such accommodations will be required, and that when a change in Pullman en route is necessary the traveler should secure the usual transfer check from the Pullman conductor, to be exchanged at the Pullman ticket office for accommodations beyond the point where such a change in Pullmans is made. Failure to follow these requirements causes the Pullman Co. to bill the department for the amount of the two or more local Pullman rates instead of the much lower through rate that should apply, with resulting disallowances by the General Accounting Office of the excess charges.

In a recent letter to the disbursing clerk, L. M. Bradish, assistant general auditor of the Pullman Co., called attention to the matter, as follows:

"We find that in most cases where we have applied local rates when through rates should apply, the fault is that the officers issuing the requests have not drawn one to cover the trip from starting point to destination, but have issued separate requests on account of the different parts of the journey. The result is that the conductor in charge of the first car lifts the transportation request covering accommodations furnished by him in his car and turns same in to us with his reports. The conductor of the second car does likewise, so far as the request lifted by him is concerned. In some instances the second request is not received for as long as two weeks after the receipt of the first one and in many instances they are taken into different months' accounts. In such cases we will have rendered a bill for accommodations furnished on the first request lifted before the second one is received. To obviate this difficulty and reduce the possibility of overcharges I suggest that where the journey of an employee of your department necessitates using space in two or more Pullman cars, the request be drawn to cover the full journey. Our conductors are equipped with transfer tickets which are issued by them to cover accommodations beyond the point to which their cars are operated. If this is done the conductor in charge of the first car will turn in with his reports the transportation request covering the full journey and the through rates will be applied. If for any reason the employee does not use the transfer ticket issued to him by the conductor, it will

be redeemed by us. I feel confident that if the issuing officers will be governed in accordance with the above suggestion there will not be very many instances of overcharges due to local rates instead of through rates being charged."

As disallowances arising from the failure of an employee to observe the requirements of Paragraph 43 of the Fiscal Regulations in this respect are made directly against the accounts of the Pullman Co., the results do not come to his attention as they would if he had made an overpayment from his personal funds used to defray traveling expenses. The attention of the traveling personnel is therefore invited to the matter here in the hope that fuller cooperation may be obtained toward avoiding such disallowances in the disbursing clerk's account and obviating the necessity for collecting from the Pullman Co. excess charges billed against the department through no fault of the company.

TO STUDY THE QUAIL IN FLORIDA

Groups of property owners in the region between Thomasville, Ga., and Tallahassee, Fla., have contributed a liberal fund with which the Biological Survey can make a thorough investigation continuing for three years of the life history of the quail and of all the factors affecting its abundance. Two assistants have been employed for this work and a laboratory established at Beachton, Grady County, Ga., near the Florida line. In that particular locality there are numerous large estates, the winter homes of sportsmen, among whom quail shooting is a leading recreation. The contribution is the result of a desire on the part of these sportsmen to maintain the maximum number of quail on the land and also to know more about the breeding and feeding habits and the causes affecting the abundance of the birds.

Numerous birds have been trapped and banded, so that information on the movements and longevity of individual quail will be obtained, as well as data on pairing habits, the make-up and permanency of coveys, and the like. A careful study is being made of the nesting habits of the quail, including character of site, range, in number of eggs, destruction of nests by various agencies, and the net production. The relation of all natural enemies to quail will be specially studied, and emphasis will be placed also on food investigations, including possibilities of increasing the supply. Opportunity is afforded by the present investigation for making the most complete study of life history that has ever been made of an American game bird, and numerous interesting and valuable results are confidently expected.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

ARMOUR-MORRIS PACKER CASE STARTED

Oral arguments on the validity of the acquisition by Armour & Co. of the business of Morris & Co., meat packers, started before Secretary of Agriculture W. M. Jardine at 2 o'clock, Monday, April 6. The hearings are for the purpose of enabling the Secretary of Agriculture to reach a decision as to the validity of the merger under the packers and stockyards act.

ARGENTINE COTTON ACREAGE INCREASED

The cotton area of Argentina as cable by the International Institute of Agriculture to the department amounts to 259,000 acres for the 1924-25 crop, an increase of 67 per cent over the 155,000 acres grown in 1923-24. The cable also states that early harvesting results are satisfactory as to quantity.

REPORT ON RUSSIAN CROP ACREAGES

Russia reports intentions to plant considerably larger acreages of cotton and sugar beets as compared with last year, according to a cable received by the department from the International Institute of Agriculture at Rome. American exports of cotton direct to Russia for the eight months ended February, 1925, have totaled 152,000 bales, whereas there were no direct exports during the corresponding period last year.

STUDY FARM AND RETAIL PRICES

Farm prices are now being collected monthly by the Bureau of Agricultural Economics on practically all products that farmers sell and on about 70 typical articles which farmers buy. This material is being used in studies of the spread between farm and retail prices.

ALIMENTARY PASTE STANDARDS REVISED

The joint committee on definitions and standards for food products has proposed a revision of the present definitions and standards for alimentary pastes, according to Dr. W. W. Skinner, chairman of the committee. Criticisms and suggestions regarding the proposed definitions are invited from food officials, consumers, the trade, and all in-

terested parties. Communications should be addressed to the secretary of the joint committee on definitions and standards, Bureau of Chemistry, Washington, D. C., and should reach him not later than June 1, 1925.

FROZEN EGGS RETAIN VITAMIN VALUE

Eggs kept in cold storage in a frozen condition for nearly nine years have been found by the Bureau of Chemistry to retain practically their original vitamin-A potency. From the results of this experimental work it seems that freezing eggs and keeping them for long periods in cold storage causes but little, if any, deterioration with respect to this vitamin.

EXTENSION NEWS ITEMS

CHANGES IN PERSONNEL

Delaware.—A. D. Cobb, State leader of club work, has also been made State leader of county agents. Ed Willim has been appointed club agent in New Castle County.

Florida.—M. R. Ensign has been appointed extension entomologist and plant pathologist on the State extension staff. J. L. Smith is now district agent for west Florida and has been succeeded as county agent of Escambia County by W. W. Green. P. M. Childers resigned as county agent in Brevard County and W. G. Wells has succeeded him. P. S. Taylor, of Tennessee, has been appointed county agent in St. Johns County. V. W. Wilson has been appointed assistant county agent in Polk and Hillsboro Counties to work with citrus aphids. K. C. Moore has resigned as county agent in Marion County to go into commercial work, and S. W. Hiatt, formerly district agent for northern and southeastern Florida, is now agent in Palm Beach County, succeeding R. A. Conkling. Ralph Stoutamire has resigned as agricultural news editor on the State extension staff to become assistant editor of the Florida Grower, and J. Francis Cooper, formerly assistant editor of the Progressive Farmer, has been appointed to fill the vacancy.

Idaho.—L. B. Taylor has succeeded D. B. Leonard as boys' and girls' club agent in Bannock County. Myrtle Davidson, for the past four years home demonstration agent for Bear Lake County, has been appointed district home demonstration agent for eastern Idaho to succeed Georgiana H. Smurthwart, who has become a member of the Kansas extension service.

Kentucky.—S. J. Lowry has resigned as assistant State agent to become superintendent of the experiment substation at Princeton and has been succeeded by H. F. Link, formerly county agent in Campbell County. Counties appropriating funds for the first time to employ extension agents are Pike, Spencer, Henry, Franklin, and Shelby. Willis Abner has been transferred from assistant county agent in Madison County to be county agent in Pike County; W. M. Howat is the new county agent in Spencer County; C. C. Malone, formerly assistant county agent in McLean County, is now agent in Henry County; and H. R. Jackson is county agent in Shelby County. H. R. Lane has succeeded H. K. Warth as county agent in Crittenden County, and A. G. Middleton, formerly agent in West Virginia, has been appointed agent in Christian County. Helen Kennedy has succeeded Emma S. Roseboom as home demonstration agent in Mercer County.

Tennessee.—Mildred Jacobs, formerly home demonstration agent in Fayette County, has been appointed district home demonstration agent in place of Ruth G. Arey, resigned. Gertrude Officer, recently supervisor of elementary schools in White County, will succeed Miss Jacobs as home demonstration agent in Fayette County. Hallie Prather, of Mississippi, has been appointed home demonstration agent in Sullivan County to succeed Carrie Lovette, resigned. E. C. Reynolds, of Mississippi, has been appointed county agent in McNairy County, succeeding W. T. McKell, resigned. H. K. Foster, formerly county agent in De Kalb County, has been transferred to Cumberland County. Agent J. P. Ricketts has been transferred from Hickman County to Bledsoe County and J. E. Summers, county agent in Sevier County, has succeeded M. V. Roger, who has resigned as county agent in Hawkins County.

FORTHCOMING CONFERENCES

Junior Week at the University of Kentucky has been set for June 8-13.

Junior Week Short Course at the Minnesota College of Agriculture will be held April 6-11. Plans are being arranged for an attendance of 600 boys and girls. Training to develop leadership will be emphasized.

District conferences of Minnesota county agents and other extension workers have been arranged as follows: Duluth (northeast district), April 21-22; Morris (northwest district), April 23-24; Mankato (southwest district), April 25-29; Owatonna (southeast district), April 30-May 1.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Messenger Boys and Messenger Girls Placed in the Apportioned Departmental Service

MEMORANDUM No. 525—March 28, 1925.—The attention of the various bureaus and offices of the department is invited to an Executive order, dated January 28, 1925, which has the effect of placing the positions of messenger boy and messenger girl in the apportioned departmental service and of rendering the incumbents of such positions eligible for promotion upon such test of fitness as the Civil Service Commission may prescribe. In this connection the Civil Service Commission has outlined the following procedure for promotions, changes of designation, transfers, reinstatements, etc., of messenger boys and girls:

1. *Personnel movements from junior messenger, Cu-1-1, to assistant messenger, Cu-2-1.*—This change may be made after prior approval of the commission without further written examination after the junior messenger has completed his six months' probationary period.

2. *Personnel movements from junior messenger, Cu-1-1, or assistant messenger, Cu-2-1, to other classes of positions in the custodial service.*—Changes of this type, e. g., to messenger, Cu-3-1, senior (skilled) laborer, Cu-3-2, subordinate mechanic, Cu-2-3, minor mechanic, Cu-3-3, may be made after prior approval of the commission without further written examination, provided that at the time the change is to take effect the candidate has passed his eighteenth birthday. Of course, he must also have successfully completed his probationary period as junior or assistant messenger, as the case may be. Where the change is to a class of positions in the mechanic group or the guard group it is subject to a prior showing of proper qualifications, and Form 375, fully executed, should be submitted with the department's request.

3. *Personnel movements from junior messenger, Cu-1-1, or assistant messenger, Cu-2-1, to classes of positions in the clerical, administrative, and fiscal service.*—(a) To classes of positions in the following classification groups: Clerk group, typist group, stenographer group, clerk-typist group, clerk-stenographer group.

Promotions or personnel movements to these classes of positions will be by competitive promotion examination in the same manner and in accordance with the same general regu-

lations as exist at present for promotion of subclerical employees to the clerical grades (CAF-1, CAF-2, etc.). The customary semi-annual departmental clerical promotion examinations will hereafter be open to junior messengers and assistant messengers and they will be in competition for promotion with all others in the same bureau on the same promotion register. Those who happen to be on an existing open competitive register for a class of positions in CAF-1 or CAF-2 may, at their option, have their eligibility transferred to the promotion register at the time such register is formed, instead of taking the promotion examination. This will, of course, cancel their eligibility on the open competitive register. Details of these departmental clerical promotion examinations are, of course, given in the semiannual announcements. Such promotion examinations will next be held in May, 1925.

(b) To classes of positions in the following classification groups: Operator, office-devices group; photographer group; office draftsman group.

Personnel movements to classes in one of these groups may be made noncompetitively after such test of fitness as the commission may prescribe. Generally the age limits, mental tests, and experience requirements will be the same as are prescribed for original appointment. Request for such noncompetitive examination should be submitted in the usual manner, accompanied by Form 375, fully executed.

4. *Personnel movements from junior messenger, Cu-1-1, or assistant messenger, Cu-2-1, to classes of positions in the subprofessional service.*—Personnel movements to classes of positions in this service may be made noncompetitively after the candidate passes such test of fitness as the commission may prescribe. Generally the age limits, mental tests, and experience requirements will be the same as are prescribed for original appointment. Request for such noncompetitive examination should be submitted in the usual manner, accompanied by Form 375, fully executed.

5. *Proof of legal residence.*—Messenger boys and girls who are at present in the service will not at once be required to prove legal residence and will not be charged to the apportionment until they are proposed for a personnel change requiring action by the commission. It is suggested that when such time occurs, the department's request be accompanied by Form 1030, executed by the candidate.

6. *Out-of-Status allocations.*—(a) Messenger boys or girls who, on or as of July 1, 1924, were allocated to any class of positions in Grades 1, 2, or 3 of the custodial service will be considered as having a proper status for the positions to which so allocated and may receive any rate of pay within the grade to which allocated.

(b) However, messenger boys or girls who by virtue of irregular assignments were allocated on or as of July 1, 1924, in classes of positions in the clerical, administrative, or fiscal service, or in the subprofessional service, for which classes they have never qualified under the civil-service rules (while they may, under the Executive order of June 19, 1924, remain in the positions to which allocated and receive the initial rate of compensation as fixed July 1, 1924), are not entitled to salary increases that would render their total compensation in excess of the maximum amount to which they would have been entitled had they been allocated in accordance with their status, namely, \$1,260, unless and until they qualify under the rules for the position to which allocated. See Comptroller General's decision of December 9, 1924.

(c) To qualify properly for the classes of positions to which allocated, messenger boys or girls allocated to any class of positions in the subprofessional service or any class of positions in the custodial service in grade 4 or higher, or any class of positions in the operator, office devices group, photographer group, or office draftsman group of the clerical, administrative, and fiscal service, may be given a proper status for the position to which allocated upon noncompetitive examination upon request of the department at any time. (See pars. 2, 3 (b), and 4 herein.)

(d) To qualify properly for out-of-status allocations to classes of positions in the clerk group, typist group, stenographer group, clerk-typist group, or clerk-stenographer group of the clerical, administrative, and fiscal service, messenger boys or girls must enter the semi-annual clerical promotion examination corresponding to the class to which allocated, and be reached for appointment on the appropriate bureau register. (See par. 3 (a) herein.)

In order to eliminate from paragraph 462 of the administrative regulations the reference that messenger boys, appointed subsequent to September 18, 1909, will not be eligible for promotion to the clerical or subclerical grades, that paragraph is hereby amended to read as follows:

462. *Promotion of clerical and subclerical employees.*—As a rule, vacancies in clerical positions will be filled by the promotion of clerks of lower grades; they will be filled by original appointment, transfer, or reinstatement only when the requisite qualifications are not to be found in clerks who would otherwise be eligible for promotion.

A recommendation for the promotion of a clerical or subclerical employee in the classified service will be made by a chief of bureau only when made by the official under whose supervision or control such employee is serving. No employee shall be promoted during probation unless the approval of the Civil Service Commission has previously been obtained.

Amendments to the Fiscal Regulations

MEMORANDUM No. 526—March 28, 1925.—Paragraphs 14 and 15 of the fiscal regulations of the department are hereby amended to read as follows:

14. *Affidavits and acknowledgments in connection with prosecutions.*—Oaths, affidavits, and acknowledgments¹ for use in any prosecution or proceeding under or in the enforcement of any law committed to the Secretary or the department or any bureau or subdivision thereof for administration shall, whenever practicable, be administered or taken by or before an employee of the department, designated by the Secretary, and any such oath, affirmation, or affidavit when certified under such employee's hand and authenticated by the seal of the Department of Agriculture may be offered or used in any court of the United States, and has like force and effect as if administered or taken before a clerk of such court, without further proof of the identity or authority of such officer, agent, or employee, but no officer, agent, or employee of the department shall demand or accept any fee or compensation whatever for the above service. When no such designated officer, agent, or employee of the department is available, oaths, affidavits, and acknowledgments should be executed (a) before a clerk of a United States court; (b) before a United States commissioner; (c) before a notary public; or (d) before a justice of the peace having authority to administer the same, preference being given to the officials in the order named. When ex-

¹ Before me, _____ and employee of the Department of Agriculture of the United States designated by the Secretary of Agriculture under authority of the act of January 31, 1925 (Public 356, 68th Cong.), personally appeared _____, who deposes and says:

Subscribed and sworn to before me at _____ on this _____ day of _____, 19____.

Employee of the Department of
Agriculture designated under act
of January 31, 1925.

cuted before an officer not having a seal, a certificate from the clerk of the court or other officer having charge of the records of the appointment or election of the officer before whom the oath, affidavit, or acknowledgment is executed should be attached. When it is necessary to appear before a notary public or justice of the peace, notarial or justice of the peace fees will be allowed if not in excess of the legal rate authorized by the State laws at the time of the service. Payment of fees should not be made to clerks of United States courts or to United States commissioners, as these officers take credit for such services in stating their fee accounts against the United States, and no reimbursement will be made to departmental employees for such fees.

PERSONAL SERVICES

15. *Appointment and oath of office.*—Except temporary assistants and laborers outside of Washington employed, subject to civil-service rules, under letters of authority every person entering the service of the department will be appointed by the Secretary, and the rate of compensation, if any, will be specified. In no circumstances will an appointment be issued the compensation under which is payable from the contingent fund of the department, nor will an appointment be issued under any appropriation for service in the District of Columbia unless such appropriation contains specific authority for employment in the District of Columbia. An oath of office¹ must be executed and filed with the bureau before the first payment of salary will be made² in all cases of original appointment. After having subscribed to the oath of office an employee will not be required to renew such oath because of any change in status so long as his services are continuous, unless, in the opinion of the Secretary, the public interests require such renewal.

There was recently enacted into law "An Act to empower certain officers, agents, or employees of the Department of Agriculture to administer and take oaths, affirmations, and affidavits in certain cases, and for other purposes," approved January 31, 1925 (Public No. 356, 68th Cong.), and the above paragraphs are modified so that the regulations may conform with existing law. In addition to empowering certain employees to administer oaths (covered by par. 14 of the fiscal regulations), the law also provides that employees who upon original appointment have subscribed to the oath of office shall not be required to renew said oath because of change in status so long as the services are continuous (par. 15, fiscal regulations).

Personnel Policy

MEMORANDUM NO. 527—March 28, 1925.—Under the present personnel policy of the Government the necessity has increased for administrative officers to restrict the number of employees under their supervision to the absolute minimum required for effective operation. Monthly reports are now required of the personnel situation in each branch, and full explanations must be made of each increase reported.

Wherever an appointment is recommended to fill an existing vacancy, it should be clearly shown that there is specific need for the services requested and that full consideration has been given to the possibility of absorbing the work with the existing force by eliminating any possible unnecessary work or by redistributing the duties performed by employees who from time to time resign from the service.

If it becomes desirable to submit a recommendation for an increase in force in order to conduct new work which has been duly authorized, such recommendation must show clearly that the addition is absolutely necessary, and the specific reasons which make it so should be fully stated.

It will not be possible to give approval to recommendations for new appointments, either

by additions to the force or to fill vacancies, except where it is clearly indicated that careful consideration has been given to the possibility of rendering an additional appointment unnecessary.

I have been very much pleased to find that the officers and employees of the Department of Agriculture are squarely behind the program to restrict employments to the very minimum. The cooperation to this end which I have observed on the part of the members of the department is highly commendable, and I am confident that reductions in force will be effected wherever it is at all possible. The matter is one of the greatest importance.

ST. LOUIS U. S. D. A. CLUB MEETING

The March meeting of the St. Louis U. S. D. A. Club was held at the American Hotel on March 13. The following officers were elected for the ensuing year: President, Dr. J. S. Jenison, Bureau of Animal Industry; vice president, C. H. Swanger, Bureau of Animal Industry; secretary-treasurer, L. C. Mitchell, Bureau of Chemistry. An address was delivered by the retiring president, A. F. Satterthwait, Bureau of Entomology.

Final arrangements were made for the Department of Agriculture exhibit at the national food show, held in St. Louis from March 16 to March 21. It was planned to have this include exhibits by the following bureaus of the department located in St. Louis and National Stock Yards, Ill.: Bureau of Animal Industry, Weather Bureau, Bureau of Entomology, Market Reports on Fruits and Vegetables, Market Reports on Livestock and Meats, Meat Inspection Laboratory, Bureau of Chemistry, Horticultural, Division of Serum and Virus Control. This exhibit was the first of its kind ever displayed by the various bureaus of the department showing the scope of its work in St. Louis and adjacent territory, and was given for the purpose of educating the public with regard to the scope and duties of the department.

One hundred and fifty-three purebred dairy bulls have been placed in New Haven County, Conn., as the result of a year's purebred sire campaign ending February 18, the Connecticut Extension Service writes. County Agent R. K. Clapp, of New Haven County, estimates that one-half of the county's scrub bulls were replaced by purebreds. With this record and that of New London County, given in the February 11 issue of the OFFICIAL RECORD, Connecticut counties are demonstrating the effectiveness of making definite plans for such undertakings and persistently following them.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Many cattlemen are changing from cattle to sheep on the national forest ranges. What reasons, if any, have you for discouraging the movement?

Answer. Stockmen are allowed to change their grazing permits on national forests from cattle to sheep in all cases where the range is as well adapted to sheep as to cattle, where the change will not be detrimental to other users of the forest, and where timber, watershed, or other forest values will not be impaired. Dependent ranch properties or other lands used as a basis for securing permits on the national forests must be suitable to raising sheep.

Question. In what grade in the subprofessional class of the reclassification of Federal employees is the senior lay inspector placed?

Answer. The reclassification act applies only to civilian employees in Washington (see sec. 5). Reclassification has therefore not been applied to employees in the field and no funds have been appropriated for that purpose. Salary readjustments were made last July for the purpose (1) of including the \$240 bonus, which was not reappropriated as such, but for which necessary additional funds were provided, and (2) of making the salaries of such employees conform as nearly as possible, regular appropriations considered, to those paid for similar services in Washington under the reclassification act. Under this arrangement senior lay inspectors receive the salary of grade SP-6.

Question. What are lightning prints?

Answer. After a person has been struck by lightning, especially in cases where no serious injury is sustained, it is not uncommon to find somewhere on the patient's body ramifying pink marks, which generally disappear in the course of a day or two. These marks bear a general resemblance to trees or to the venation of leaves, and were at one time supposed to be the photographic images of such objects produced in some mysterious way by the lightning. It is now known, however, that these marks are not photographs but are merely the lesions due to the passage through the tissues of a branching electrical discharge.

¹ Note. ² Note. (The footnotes will remain the same as in the present par. 15.)

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

CROP FORECASTS WILL AID FARMERS

Great improvements in the adjustment of the supply of farm products to the demand are made possible as a result of recent innovations in crop estimating and forecasting by the department. Included in these newer activities are surveys of livestock and field crop production plans and production prospects.

Twice a year, on June 1 and December 1, the department makes a pig survey, as a result of which it forecasts the number of hogs that will be marketed the following autumn and winter. The forecasts, which were started three years ago, have been very close to the actual receipts at the principal markets. Farmers have profited from the advance knowledge thus given.

Forecasts of potato production give the intelligent farmer information that he can turn into money. When the department forecasts a large late crop, the growers of early potatoes know their best policy is to sell their crop as soon as possible, so as to avoid coming into competition with the growers of the late-maturing varieties. If a short late crop is forecast, the producers of early potatoes can hold their supplies for better prices or can augment the supply by delayed harvesting. Similar aids to intelligent marketing are to be given by surveys of dairying, which will forecast butter and cheese production and estimate the number of dairy cows there will be on farms at a certain date. Poultry surveys are planned to indicate early in the winter how many hens and pullets are being kept for laying, and throw light on the probable spring egg crop.

Adjustment of production, says the department, is the surest way to prevent disastrous ups and downs in market prices. No control of the marketing process can accomplish this result when production is badly out of balance. It is better to adjust production to demand, than to rely too much on efficiency in marketing to undo the bad effect of mistakes in production. Adjusting farm production, however, is only possible before crops are in the ground and before animals are bred. The turnover of most farm crops is at least a year. Once crops are planted and livestock bred, the only adjustment a farmer can make to an unfavorable market situation is to change the time and manner in which he will sell his products. As he can do this only within narrow limits, it is

better for him to gauge his production ahead, in accordance with available data forecasting production and price trends.

General use of all the production and market forecasts issued by the department would undoubtedly set in motion a strong influence tending to smooth out the hills and valleys of production, and to eliminate the losses always caused by a bad adjustment of supply to demand.

WITH EXTENSION FORCES

UNDERTAKE FOOD PRESERVATION WORK

A simple home evaporator for drying fruits and vegetables has been introduced in farm communities of some 47 counties in California by the State extension service within the past three or four years. The purpose is to provide greater variety of foods for winter use, to save the surplus garden and orchard produce, to save time and labor of the housekeeper, to encourage the planting of more gardens and larger gardens on the farms, and to economize fuel, containers, and storage space.

A circular, giving a list of the material required and directions for construction and use of the evaporator, is furnished on request. The equipment is easily built at home, the cash outlay varying from a few cents to several dollars, depending on the amount of lumber and other materials available. A small oil stove is generally used to furnish the heat, which makes regulation of temperature easy.

Demonstrations in the construction of the evaporator are given whenever possible, early in the year. The procedure followed in Monterey County last year is typical of that in most counties undertaking this phase of food-preservation extension work. The assistant State home demonstration leader, Lillian D. Clark, came to the county in March and gave demonstrations in constructing the evaporator in eight communities, assisted by the county home demonstration agent, Maybell S. Eager, who had previously made arrangements for the meetings. Several weeks later Miss Eager gave a demonstration in a ninth community which had not been able to get ready for the first schedule. She was assisted by two local women, one of whom afterward gave demonstrations in two other communities.

At the latter demonstrations previously cooked dried products were served at the lunch hour. Cooked dried squash, tomatoes, pumpkin, cherries, peas, string beans, and huckleberry pie were served. The taste of these and the reports of

success given by the women who had used their evaporators stimulated interest in the practice.

After the demonstrations many women, with a little assistance from their husbands, built evaporators. Dried products were shown at the county fair and talks and exhibits at committee meetings helped to spread the use of evaporators and of the dried fruits and vegetables. Over 500 pounds of dried vegetables and more than 600 pounds of dried fruits were prepared in the county during the first year the equipment was used. There are about 48 home evaporators in use in the county now. In a number of cases two or more families use the same equipment.

Stanislaus County farm women have been unusually successful in making candied figs, using the evaporator for finishing the product.

The evaporator has been made to serve the housewife in a number of ways in addition to caring for surplus fruits and vegetables. Some have found it excellent for raising bread dough, storing the last picking of tomatoes, for drying nuts and seeds produced in quantities for the trade, for sprouting grain for chickens, and on one occasion it was used as an election booth.

A luncheon of evaporated garden products was served at the last annual extension conference at Berkeley, with the following menu: Puree of powdered dried spinach, chowder of 13 varieties of dried vegetables, Kentucky Wonder beans, Golden Bantam corn, spinach, salad of dried peas in gelatine, preserved grapefruit, cake with filling of fruit confections, and 10 varieties of candied or glace fruits.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel, the following employees in the department were recently retired:

Noble Towner, a messenger in the Weather Bureau, at New Haven, Conn., was retired on account of age on November 26, 1924. He was born on November 27, 1852, and at date of retirement had reached the age of 72 years. He had been continuously employed in the Weather Bureau since December 1, 1893, a period of almost 31 years.

William F. Grass, a cabinetmaker in the office of the Secretary, was retired on account of age on January 17, 1925. He was born on January 18, 1860, and was 65 years of age on date of retirement and had served continuously in this department since June 12, 1908, a total period of 16 years, 7 months, and 6 days.

BRIEF REVIEWS OF NEW BULLETINS

Land Settlement and Colonization in the Great Lakes States. By John D. Black, chief, division of agricultural economics, University of Minnesota, and L. C. Gray, economist in charge, division of land economics, Bureau of Agricultural Economics. Pp. 88, figs. 12. March 23, 1925. (Department Bulletin 1295.) Price, 15 cents.

Establishment of definite State and national policies with regard to land settlement and colonization activities carried on by private agencies is urged by investigators of the department as a result of a study of land settlement practices in the Great Lakes States which is described in this bulletin. The department points out that the sale of land at a reasonable price and on convenient credit terms as to repayment and low rates of interest are feasible, but not on terms that are too easy from the standpoint of initial contribution by the settler himself. When a lumber company owns land of good quality for farming, a policy of settlement immediately following the saw has many advantages.

Why Potatoes Run Out. By E. S. Schultz, associate pathologist, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry. Pp. 21, figs. 14. November, 1924. (Farmers' Bulletin 1436.)

According to evidence at hand seed-potato improvement is largely a matter of disease control, says the department. Recent experimental findings with the group of so-called virus or degeneration diseases of potatoes, including mosaic, leaf-roll, spindle-tuber, streak, and curly dwarf, show that the so-called running-out, deterioration, senility, etc., of the potato is caused very largely if not entirely by these virus diseases. Reductions in yield ranging from 15 to 70 per cent or practically a total loss in severe cases may result from these maladies. Factors in the improvement of seed potatoes are discussed in this bulletin.

Soil Survey of Perkins County, Nebr. By Louis A. Wolfanger, of the United States Department of Agriculture, and V. M. Russom and E. H. Strieter, of the Nebraska Soil Survey. Pp. 46, fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

In this report, in addition to detailed descriptions of the various types of soil found, there is a general discussion of the topography and drainage of the county, roads, and other transportation facilities, markets, climate, and agriculture. The report also supplies valuable information regarding the different types of soil, and is not only useful to the landowners themselves but to others, including the State authorities investigating soil and crop problems. The report contains a large map in colors showing the location of the various kinds of soil throughout the county.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 52, No. 1. January, 1925. Pp. 1-100. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review. Vol. 52, No. 12. December, 1924. Pp. 563-611, figs. 15, pls.

2, charts 17. Special articles: The year 1916—The causes of abnormalities. By W. I. Milham.—A new classification of typhoons. By Coching Chu.—Dorno on the technique of the measurement of solar radiation in restricted spectral regions. By H. H. Kimball.—The probabilities of 0.10 inch, or more of rainfall at Springfield, Ill. By W. F. Feldwisch.—Hourly rainfall at Los Angeles, Calif. By G. M. French.—Diurnal variations of precipitation at Honolulu, Hawaii. By E. E. Loveridge.—The glaze storm of December 17-18, 1924, in Illinois. By C. J. Root.—Sleet and ice storm at Corpus Christi, Tex., December 19-21, and 25, 1924. By J. P. McAuliffe.—A squall cloud in a thunderstorm; a direct observation of its motion. By D. L. Webster.—Temperature of deep water. By W. J. Humphreys.—The weather of 1924. By A. J. Henry.—Tropical disturbances during the hurricane season of 1924. By W. P. Dav.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Report of the Northern Great Plains Field Station for the 10-Year Period, 1915-1924, inclusive. By J. M. Stephens, agronomist and superintendent, Robert Wilson, W. P. Baird, and J. T. Sarvis, associate agronomists, J. C. Thyself, assistant agronomist, and T. K. Killand, scientific aid, office of dry-land agriculture investigations, and J. C. Brinsmade, Jr., assistant agronomist, office of cereal investigations, Bureau of Plant Industry. Pp. 80, figs. 10. March 30, 1925. (Department Bulletin 1301.) Price, 15 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 214. February, 1925. Pp. 23. March, 1925. Price, 5 cents.

Soil Survey of the Eureka Area, California. By B. R. Watson, of the United States Department of Agriculture, and Stanley W. Cosby, and Alfred Smith, of the University of California. Pp. 31, pl. 1, fig. 1, map. (From F. O. Soils, 1921.) Price 25 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of March 25, 1925. Copies of these publications may be obtained from the stations issuing them.

Monilia blossom blight (brown rot) of apricots. B. A. Rudolph. (California Sta. Bul. 383, pp. 55, figs. 10. February, 1925.)

Pollination of the sweet cherry. W. P. Tufts and G. L. Philp. (California Sta. Bul. 385, pp. 28, figs. 11. March, 1925.)

Prevention of insect attack on stored grain. W. W. Mackie. (California Sta. Circ. 282, pp. 8, fig. 1. February, 1925.)

The moisture equivalent as influenced by the amount of soil used in its determination. F. J. Velhmeier, O. W. Israelsen, and J. P. Conrad. (California Sta. Tech. Paper 16, pp. 61, pls. 2, figs. 9. September, 1924.)

Factors influencing the rate of germination of the seed of *Asparagus officinalis*. H. A. Borthwick. (California Sta. Tech. Paper 18, pp. 17, figs. 2. March, 1925.)

Second report of the free-protection examining board. W. E. Britton, C. P. Clinton, and W. O. Filley. (Connecticut State Sta. Bul. 263, pp. 137-192, pls. 3. December, 1924.)

Publications available for free distribution. (Idaho Sta. Circ. 37, pp. 4. January, 1925.) The cultivation of corn. Weed control v. moisture conservation. D. C. Wilmot and M. B. Harland. (Illinois Sta. Bul. 259, pp. 173-196, figs. 8. March, 1925.)

Inspection of commercial feedstuffs. P. H. Smith and F. J. Kokoski. (Massachusetts Sta. Control Ser. Bul. 28, pp. 35. November, 1924.)

Inspection of lime products used in agriculture. H. D. Haskins, L. S. Walker, and G. B. Dalrymple. (Massachusetts Sta. Control Ser. Bul. 30, pp. 6, fig. 1. December, 1924.)

Grafting in the apple orchard. H. A. Cardinell and F. C. Bradford. (Michigan Sta. Spec. Bul. 142, pp. 39, figs. 29. January, 1925.)

Tests with sugar beets. E. E. Down. (Michigan Sta. Circ. 66, pp. 8, figs. 2. February, 1925.)

Nutritive properties of pinto beans and pinto bean straw and their use as feed for cattle. H. W. Titus. (New Mexico Sta. Bul. 143, pp. 73. May, 1924.)

Thirty-fifth annual report Agricultural Experiment Station of the New Mexico College of Agriculture and Mechanic Arts, 1923-24. F. Garcia. (pp. 55, figs. 2.)

Spraying cutworms on potatoes. F. C. Stewart and P. J. Parrott. (New York State Sta. Bul. 518, pop. ed., pp. 4, fig. 1. February, 1925.)

Growing disease-free seed potatoes. F. C. Stewart. (New York State Sta. Bul. 522, pop. ed., pp. 4, fig. 1. February, 1925.)

Fumigation with hydrogen cyanide for control of the pear psylla. R. L. Webster. (New York State Sta. Bul. 523, pp. 23, pls. 4, fig. 1. November, 1924.)

Milking machines. VIII. The sanitary efficiency of a simplified type of milking machine. F. L. Mickle. (New York State Sta. Bul. 524, pp. 48, pls. 12. November, 1924.)

Changes in the composition and cost of fertilizers in New York from 1914 to 1924. L. L. Van Slyke. (New York State Sta. Bul. 525, pp. 19. December, 1924.)

Variations in varieties of canning peas. F. H. Hall. (New York State Sta. Bul. 526, pp. 20. December, 1924.)

Canning peas. F. H. Hall. (New York State Sta. Bul. 526, pop. ed., pp. 4, fig. 1. February, 1925.)

An experiment in breeding apples. II. R. Wellington. (New York State Sta. Tech. Bul. 106, pp. 149. August, 1924.)

A correlation between color of grape leaves at time of foliation and fruit color. F. E. Gladwin. (New York State Sta. Tech. Bul. 107, pp. 8. September, 1924.)

Studies with phytosterols: I. The phytosterols of the endosperm of corn. R. J. Anderson.

II. The phytosterols of wheat endosperm. R. J. Anderson and F. P. Nabenhauer.

III. The separation of unsaturated from saturated sterols. R. J. Anderson and F. P. Nabenhauer.

VI. Reduction of sitosterol preparation of dihydrositosterol or sitostanol. R. J. Anderson and F. P. Nabenhauer.

V. Sitosterol. R. J. Anderson and F. P. Nabenhauer. (New York State Tech. Bul. 108, pp. 40, fig. 1. September, 1924.)

The influence of plot size and replication on experimental error in field trials with potatoes. K. C. Westover. (West Virginia Sta. Bul. 189, pp. 32, figs. 11. November, 1924.)

ORDER CANDY NOW FOR EASTER TIME

The Welfare Association of the department will have the following for sale for delivery prior to Easter:

5-pound Park & Tilford chocolates----	\$2.00
5-pound Park & Tilford chocolates, including "Easter Surprise" (same as last year)-----	2.35
1 box "Easter Surprise" alone-----	.35
2-pound box of Brownley's chocolates (their 80 cents per pound grade) (2-pound boxes only)-----	1.20

Orders for the above should be given to your bureau or division welfare committee at once, or mailed to W. L. Miller, room 603, 220 Fourteenth Street SW., Office of Accounts, Secretary's Office. Do not delay, but order at once. The association would appreciate it if orders could be had by Saturday, April 11, 1925, or before.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE AND HORTICULTURE

- Bisset, Peter. The book of water gardening. 2d ed. New York, DeLaMare, 1924.
 Conferencia de agronomos. Disertaciones sobre Misiones, Chaco, Formosa, Chubut y otras regiones de la Patagonia. Buenos Aires, 1920.
 Gourley, J. H. Orchard management. New York, Harper, 1925.
 Opitz, Kurt. Neuzeltlicher roggengbau. Berlin, P. Parey, 1925. (Landwirtschaftliche hefte. hft. 53/54.)

Old books

- Kerner, A. J. Die cultur der alpenpflanzen. Innsbruck, 1864.
 Mackintosh, Roland. An essay on ways and means for inclosing, fallowing, planting, etc. Scotland. Edinburgh, 1729.
 Sinclair, Sir John. On the culture and uses of potatoes. Edinburgh, 1828.
 Welter, Henri. Essai sur l'histoire du café. Paris, 1868.
 Wright, Thomas. The art of floating land. London, 1799.

DOMESTIC ANIMALS AND VETERINARY MEDICINE

- American veterinary medical association. Committee on revision of veterinary anatomical nomenclature. Nomina anatomica veterinaria (veterinary anatomical names). Detroit, 1923.
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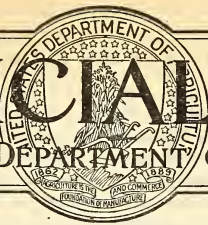
Junior marketing specialist, \$1,860. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Examination will be given in the following optional subjects: Marketing grain, hay, feed, or seed; marketing fruits, vegetables, and miscellaneous products; marketing livestock and animal products; marketing dairy products; marketing poultry and eggs; marketing wool. Applicants must state in the application blank (Form 2415) under "kind of examination" all of the optional subjects in which they desire to be examined. Only one application is required to be filed by an applicant regardless of the number of subjects taken. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 2.

Bean standards helper, \$1,140. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,500 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 25.

Four national prizes have been won since April, 1924, by Virginia farm women and girls, a recent report states, through work undertaken in connection with home-demonstration activities, two of them in canning and two in home improvement.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., APRIL 15, 1925

No. 15

PUREBREDS USED LARGELY FOR MEAT

Inquiry Confirms Belief Purebreds Are Much More Profitable For All Purposes

Only about one-half of the purebred animals in the country eligible to registration are actually registered. This is but one of many enlightening facts brought out in a questionnaire inquiry, covering 45 States, which was recently conducted by the Bureau of Animal Industry for the purpose of obtaining directly from farmers detailed information on the current trend of the livestock industry with respect to the quality of stock.

The extent to which purebreds are sold as meat animals is seen in the following figures: Swine, 75.1 per cent; sheep, 62.6 per cent; cattle, 41.8 per cent. The foregoing figures represent the records or estimates of purebred livestock owners who sell a considerable proportion of their purebred animals for slaughter. The weighted average for all classes of these animals is 62 per cent.

Less Stock Sold for Breeding

The remainder was sold chiefly for breeding purposes. In this connection it may be explained that the majority of persons answering the questionnaire were average progressive farmers rather than professional or especially skilled breeders. Some told of their preference for selling their surplus purebreds only as breeding stock, but such owners were in the minority.

Judging from numerous comments, the reasons for using the market outlet so extensively, as well as selling stock for breeding purposes, were the greater convenience and equally satisfactory returns, and a spirit of satisfaction and independence in having these two good outlets permeated the discussion.

The agricultural census for 1920 ascertained, for the first time, the number

of registered purebred livestock of the different kinds and breeds on farms in the United States. But it is known that a great many breeders and feeders do not register all their purebred stock. The principal reasons given for not registering purebred animals were: Intention to sell for slaughter, poor individuality, little demand for registration papers when stock is sold, and carelessness in attending to registration. In some cases the papers were obtained only when the animals were sold and the buyer demanded the evidence of pure breeding.

Good Grades Take Second Rank

On the question of the relative profitability of purebred, grade, and scrub livestock for meat purposes there was a "landslide" of opinion in favor of purebreds, with well-bred grades a close second. A Nebraska stockman expressed the opinions of many others in the brief remark, "I find that purebreds are of more uniform type, feed out better and more quickly, and therefore put on more gain with the same or less feed and in less time." Others told of high prices, ready sale on slow market days, ability to fatten on grass with a minimum of grain feed and finishing for profitable early markets.

To throw some light on the question of the relative cost of raising purebred and common stock, the department asked for the experiences of breeders who had raised both kinds. Livestock experts have differed on the correct answer to this question, which of course leaves out of consideration the values of the two classes of stock after they have been raised to maturity or market size. Purebreds are worth much more when raised, but the moot question is, "Which costs more to raise, considering investment in breeding stock, feed, care, time required to reach maturity, etc.?"

Of 602 replies, 229 stated, that, considering everything, the cost was practically the same; 204 stated that purebreds cost less to raise; and 169 con-

BUSINESS OFFICES TO BE CONSOLIDATED

Order Brings Together Several Offices Formerly Reporting Direct to the Secretary

Pursuing the policy of economy and simplification upon which he has entered, Secretary Jardine has just announced further changes to facilitate the general business administration of the department. The work of the various offices attached to the office of the Secretary and engaged in personnel and other branches of business administration will now be coordinated. The resultant unification will be known as the office of personnel and business administration. The office will function through two major branches, one of which will handle personnel matters and the other general business administration.

Doctor Stockberger Appointed Director

Dr. W. W. Stockberger, formerly departmental personnel classification officer, has been designated as director of personnel and business administration, and will have general direction and supervision of the business administration of the department, including the coordination and improvement of the activities of the various bureaus and offices of the department which come under that designation.

W. A. Jump, heretofore administrative assistant, has been appointed assistant director, and will have immediate direction and supervision of the branch of general business operations. He will also continue to act as budget officer of the department.

The director of personnel and business administration will cooperate closely with the other directors where their fields of work are concerned and will advise with the chiefs of bureau and offices on matters of personnel and busi-

(Continued on page 3)

ness administration involving the activities under their supervision.

Although subject to such rearrangement as may be determined upon by the director, the two major branches through which the office of personnel and business administration will now function are for the present to be known as (1) branch of personnel, and (2) branch of business operation. The former will include the work and personnel heretofore assigned to the personnel office, the salary classification office, and the personnel section of the office of inspection. The latter branch will include the office of the chief clerk and subsidiary units, the section of accounts serving units of the office of the Secretary, which is hereby placed under the immediate supervision of the chief clerk, the office of purchases and sales, with which the work and personnel of the office of the traffic manager is hereby merged, the division of accounts and disbursements, the fiscal section of the office of inspection, and the employees of the immediate office of the Secretary heretofore engaged principally in budget and finance and other business administration work.

Will Issue Plan of Organization

A detailed outline of the organization, duties, and functions of the office of personnel and business administration will soon be available. In order to facilitate the transaction of business, papers originating in the various bureaus relating to matters with which this office is concerned will be sent directly to that office, and incoming mail of the same type upon receipt in the Secretary's file room will be directly referred in a similar manner.

The advisory committee on finance and business methods has been abolished and matters heretofore considered by that committee will for the present be considered by the heads of offices charged with the responsibility in the various lines involved.

The second floor of the Administration Building will be given over to the office of personnel and business administration in order to expedite the transaction of business of the latter. The packers and stockyards administration will be located at B Street and Linworth Place, in the building formerly occupied by the office of the solicitor. The solicitor's office will be located in the Administration Building. These changes will be effected as soon as practicable.

Publications issued by farmers' business organizations, including house organs, news letters, etc., are listed in a mimeographed report compiled in the Bureau of Agricultural Economics which is now available.

PIMA COTTON NOW IN DEMAND

The Pima variety of American Egyptian cotton, developed by cotton breeders of the Bureau of Plant Industry at the cooperative field station at Sacaton, Ariz., has been grown more or less extensively on irrigated land in the Southwest during the past eight years. The bulk of the crop has been produced on the Salt River reclamation project, in southern Arizona. The business depression of 1920 made this cotton almost unsalable for a time, but a satisfactory demand now exists. This is shown by the figures of mill consumption of Pima in the United States during the last four calendar years, as compiled from the reports of the Bureau of the Census, United States Department of Commerce. The annual total consumption, in bales of 500 pounds gross weight, has been:

1921-----	22,302	1923-----	42,021
1922-----	72,590	1924-----	33,102

The very heavy consumption in 1922 was made possible by the carryovers from the large crops produced in 1919 and 1920, on the eve of and during the period of acute depression. The later decline in consumption has been due to depletion of the supply rather than to slackening of the demand, for recent prices indicate that this cotton is now much wanted by American spinners.

Pima, in common with other long staple cottons, brought very small premiums over short-staple cotton during most of the calendar year 1923. Sakel (Sakellariadis) cotton, the best variety grown in Egypt, the price of which determines in large measure the price of Pima, was quoted at Liverpool from June 15 to July 20, 1923, for the "good" grade, only 2 cents higher than Middling Upland. The premium during this period amounted to about 6.5 per cent. As a result of these relatively low prices for long-staple cottons, a very small acreage of Pima was planted in the Salt River Valley in 1924 and the production was only about 4,319 bales, as compared with about 22,426 bales in 1923.

After the middle of 1923 the long-staple premiums increased, gradually at first, then rapidly, until on March 20, 1925, the "good" grade of Sakel was quoted at Liverpool 53½ cents higher than Middling Upland, a premium of 192 per cent. During recent weeks Pima prices have ranged from 60 to 70 cents per pound, and are higher than at any time since the boom period of 1919-20. The recent demand has been such as to exhaust the supply almost completely and the carry-over this season will be negligible.

The very high premiums over short-staple cotton recently commanded by Pima have revived the interest of Arizona farmers in this long-staple variety and the acreage during the coming season will undoubtedly be much larger than in 1924. The best information at present available indicates that from 35,000 to 40,000 acres of Pima cotton will be planted in the Salt River Valley in 1925. A larger acreage probably would be planted if enough good seed were obtainable. The planting of short-staple cotton in all parts of the Salt River Valley last year left only a limited acreage of Pima sufficiently isolated to furnish pure planting seed. It is to be feared that mixed seed will be used in planting some of the Pima fields this season and that unless the Upland and hybrid plants are removed from these fields their product will lack the uniformity so desirable in a long-staple cotton.

Satisfactory results with Pima cotton grown under irrigation have been reported from Egypt and Algeria in northern Africa, the Niger Valley in French West Africa, the Union of South Africa, Australia, and Peru. Samples of this cotton grown in Egypt were pronounced by long-staple-cotton classifiers of the Bureau of Agricultural Economics to be excellent in staple, grade, and quality. In the Niger Valley and in South Africa field tests by the Government cotton experts, in comparison with the Egyptian Sakel, showed Pima to be superior in earliness and yield and in the habit of growth of the plants, thus confirming the results of comparisons made in Arizona. Government distributions of seed to farmers in Algeria and South Africa have been made recently.

The following statement by H. Dawson & Co., of Durban, South Africa, regarding the impression made upon English spinners by Pima cotton grown in South Africa, was published in the South African Cotton News Weekly of January 15, 1925:

TO THE EDITOR, THE COTTON NEWS WEEKLY.

DEAR SIR: We have received a letter from Liverpool this week reporting very favorably on a small shipment of the Pima grade of cotton which we recently sent them. Our people say this cotton proved to be very acceptable to users, and we presume it was grown from the American seed known as "Pima," which is largely planted in Arizona.

The shipment referred to was divided amongst several very large cotton spinners, by way of samples, and they were all highly delighted with the quality of its growth.

It is safe to say that this class of cotton would fetch higher premiums in relation to Liverpool futures than any other grade of cotton yet produced in the country.

Our people were so delighted with it that they sent us a special cable asking us to make its reception in Liverpool known and to encourage the growth of Pima, with careful seed selection.

Yours faithfully,

H. DAWSON & CO.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

AGRICULTURE HAS GOOD OUTLOOK

This is the first spring in five years with any evidence of general stimulus in agriculture, declared the department in its agricultural situation report for April. There are no big agricultural surpluses left, save cattle, the report says, and, judging from the lessened movement of farmers to cities, an increased number of farmers apparently feel it financially safe to stay on the farms this spring and put in their usual crops. A note of warning, however, is sounded by the department against too great expansion in production.

1925 HIGHWAYS WOULD CIRCLE WORLD

Twenty-four thousand miles of highway, enough to circle the earth, are scheduled for construction during the 1925 season by the various State highway departments, according to information secured by the Bureau of Public Roads. The State departments also plan to maintain a total of 217,794 miles of road. Approximately \$405,000,000 will be available for construction and \$135,000,000 for maintenance by the State highway departments. It is difficult to forecast the operations of the counties, but the indications are that they will spend approximately \$463,000,000 for construction and maintenance. The estimated total expenditure for the year is therefore \$1,003,000,000.

APPROVE PLAN FOR FRUIT INSPECTION

In response to a number of requests as to the probable action of the department following the public hearing conducted in Washington, March 18, 1925, to consider the bringing of Porto Rican fruits and vegetables under permit and any restriction necessary to prevent the entry into the United States of certain pests known to occur in that island, the Federal Horticultural Board announced recently that it will recommend to the Secretary the acceptance substantially of the proposals made by the Porto Rican delegates, namely, that the main fruit exports of Porto Rico to the United States—citrus fruits, pineapples, avocados, and bananas—be excepted from the requirement of permit and inspection as a condition of entry at mainland ports, but that provision be made for

Federal inspection and certification of such fruits in Porto Rico, either at point of production or shipment. Furthermore, the board expects, as was urged by the Porto Rican delegates, to provide for cooperation with the authorities of Porto Rico in such inspection and certification.

NEW REGULATIONS ON LIVESTOCK

New regulations governing the interstate movement of livestock have been issued by the department to take effect May 1, 1925. There are several slight changes from the old regulations, the most important of which have to do with the prevention of spread of Texas fever in cattle. Copies of these new regulations, known as B. A. I. Order 292, may be had from the department as long as the supply lasts.

REPORT ON U. S. MEAT CONSUMPTION

In a report just issued by the Bureau of Animal Industry dealing with meat production, consumption, and foreign trade some striking differences between the food habits of the American and the British people are pointed out. Among other things it is shown that mutton and lamb together constitute only about 3.2 per cent of total meat consumption in the United States as compared with 22 per cent in Great Britain.

PUREBREDS USED LARGELY FOR MEAT

(Continued from page 1)

tended that the cost of raising purebreds was greater. This portion of the inquiry also went into the detail of finding the per cent greater or less, as the case might be. In the latter aspect of the subject, the average per cent representing "greater cost" was 21.3, while the average per cent representing "less cost" was 17.5 per cent. Not quite all the persons, however, who expressed their general experience were able to give the per cent greater or less.

The net result of all opinions, however, leads to the conclusion that, on the average, purebred dairy cattle cost more to raise but that purebred meat animals cost somewhat less than do scrubs. Specific information on horses was not abundant enough to justify a conclusion. On diversified farms where various kinds of livestock are kept, the relative cost of raising purebreds and scrubs may be considered practically equal. The results of the inquiry indicate that under such conditions the factors balance one another with a slight leaning toward greater economy of purebreds. The ques-

tion, as worded, left out of consideration the comparative values of the two classes of animals after being raised. But in this connection, many persons who stated that purebreds cost more to raise pointed out that their much greater value when raised more than justified the expense.

Majority are Consistent Users of Purebreds

To learn how consistently owners of purebred stock make a practice of using purebred sires, the department asked for a frank statement of facts, based on actual farm practice. The question included all kinds of sires and covered all the time the farmer had been following improved methods of breeding. The response was exceptionally large. About 78 per cent had never slipped off the purebred-sire band wagon, many claiming a straight record for 10 years or more. Eighteen per cent more had been consistent purebred-sire users with rare exceptions. The remaining explanations were of varied nature, including statements of dissatisfaction with purebred sires because of poor individuality or failure, in the past, to produce desired results.

In discussing general breeding practices and methods of extending the use of purebred sires on farms throughout the country, the replies strongly urged closer culling of purebred herds, selling only worthy animals for breeding purposes and disposing of all others by the butcher route. "Insist on the seller giving value in the animal itself, not the pedigree of an ancestor," one breeder urged. A Montana stockman advised greater persistence in following a definite plan of breeding, explaining that his neighbors "switch from one breed to another and back again, until to-day they have only a menagerie and could not put 10 per cent of their calves in any sale."

Other recommendations urged demonstrations, exhibits, more complete records of breeding and production, and continued interest in purebred animals after being sold, especially when sold to inexperienced breeders. The stockmen, cooperating with the department by furnishing the varied information here presented, furthermore suggested more educational work in livestock improvement through the press, speakers, and general extension channels. The trend of comments on this subject was optimistic, expressing the belief that good work was being done but a little more would bring the desired results faster. As an Oklahoman expressed it, "To extend the use of purebred sires, just be persistent; some are shown every day."

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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Coordination of Informational Work
MEMORANDUM No. 528—April 2, 1925.
Nelson A. Crawford has been appointed director of information of the department, effective May 1.

The director of information will have general direction and supervision of all of the publication and other informational policies and activities of the department, including the editorial, printing, illustrating, publication, and distribution work heretofore under the director of publications, and the Press Service, radio broadcasting of special information, and similar activities incident to the preparation and dissemination of the results of the work of the department. This will involve the coordination of the informational activities of the various bureaus and offices, both in Washington and in the field, with a view to securing the most effective results in getting agricultural information to the people; the conduct of the business of the department with the Public Printer, the congressional Joint Committee on Printing, the permanent joint conference on printing under the Bureau of the Budget, and similar agencies, and the administration of the regulations of the department with respect to outside publication of articles prepared by members of the staff.

Under the supervision of the director of information the Office of Publications and the Press Service will be constituted and function as the Office of Information. Information as to detailed organization and procedure will be given by the director of information at a later date.

F. M. Russell, formerly in charge of the Press Service, has been appointed assistant to the Secretary, and until further notice C. E. Gopen, under the director of information, will be acting in charge of the Press Service.

The office of the director of information will be in the Publications Building, where the Press Service also will be located.

All officers and employees of the department are requested to cooperate with the director of information, who will welcome suggestions pertaining to the informational work.

Amendment to the Administrative Regulations
MEMORANDUM No. 529—April 6, 1925.—Paragraph 613 of the Administrative Regulations of the department is hereby amended to read as follows:

613. BUREAU FOREIGN MAILING LISTS.—Where circumstances warrant foreign mailing lists may be maintained under control of the various bureaus for the distribution of publications with which they are concerned. All additions or changes in the lists will be sent directly to the office of publications where the lists are maintained on addressograph plates. One copy of each bureau list will be filed in the main library for its information in connection with obtaining exchanges, and will be kept strictly current by information supplied by the office of publications.

The Office of Publications will keep a record of all foreign postage paid for the various bureaus and make monthly report thereof to the chief clerk of the department, who will take the necessary steps to reimburse the appropriation of the Secretary's office from the appropriations of the various bureaus for the amount of foreign postage paid each quarter.

This paragraph is amended in order that the foreign mailing lists may be handled in a more economical manner, by eliminating one step in the procedure. It has been the practice of the bureaus, when additions or changes are to be made, to send them to the library of the department for revision before transmitting them to the office of publications. The above procedure contemplates that all additions or changes will be sent by the various bureaus direct to the office of publications where lists are maintained on addressograph plates, and that the office of publications will notify the library of all changes therein for the library's use in connection with exchanges.

WHAT Do I consider the nearest approximation to happiness of which the present human nature is capable? Why, living on a farm which is one's own, far from the hectic, artificial conditions of the city—a farm where one gets directly from one's own soil what one needs to sustain life, with a garden in front and a healthy normal family to contribute those small domestic joys which relieve a man from business strain.—Thomas A. Edison.

RADIO MARKET REPORTS VALUABLE

A letter received by Sears-Roebuck Agricultural Foundation, Chicago, from a large dairyman in Elburn, Ill., demonstrates the practical value of radio market reports and the financial benefits derived from them. The letter reads in part:

"We are surely very grateful to your station for the daily market reports. By knowing the price per ton of cottonseed meal, we saved \$3 per ton on a 40-ton carload; the agent wanting that much more than the price you broadcast. The saving on this deal alone more than paid for the radio."

These reports are furnished the Sears-Roebuck Agricultural Foundation by the Chicago branch office of the Bureau of Agricultural Economics.

WEATHER IN JOURNALISM COURSE

The following extract from a recent letter, from the official in charge of the New York station of the Weather Bureau, to the chief of the bureau, indicates

an efficient and useful means of informing the public and thereby forming an intelligent public opinion about the weather and the Weather Bureau:

"As a part of the course in the School of Journalism of Columbia University, the classes come each term to the Weather Bureau for a feature story. This has been going on ever since the school was established, we don't know how many years.

"It never occurred to us that you might be interested in this feature by which our service established a contact with about a hundred embryo newspaper reporters, news gatherers, magazine and story writers, or that it might be interesting beyond its personality or its part in the 'day's work.'

"Taken by and large, it is the most pleasing, and we hope most profitable, contact of the entire year, and we hope its reflection may reach throughout the length and breadth of the land and be felt in the communities wherever these people may serve."

COMMITTEE FINDS ROUTES OVERLAP

From information received by the committee of Federal and State highway officials, appointed recently by the Secretary of Agriculture to develop a uniform method of numbering and marking highways, it was ascertained that there are at least 256 named routes and 97 different associations each promoting one or more named highways in the United States.

Overlapping of routes is common, in fact there are few of them that are not coincident with some other route at some portion of their length. One well known route, 1,500 miles long, overlaps other routes for 70 per cent of its length. Ten different routes are involved in this overlapping, and in places two or three of them coincide for several miles.

Not only is overlapping common, but some of the well known routes have branches and alternate routes between different points, all of which bear the same name.

The great use made of the highways to-day demands that each main traffic artery shall have only one designation throughout its entire length without changes at State lines, and that the mileage comprising the route be selected with reference only to the flow of travel.

The work of the committee will be to decide on the best system of designating our highways and recommend a remedy for the present confusion in designation and lack of designation. Every section of the country is represented on the committee, and the plan decided upon should be suitable for both State and national needs.

EXTENSION NEWS ITEMS

CHANGES IN PERSONNEL

Arizona.—H. C. Heard, for the past seven years county agent in Maricopa County, has resigned to enter commercial work, and H. A. Stewart, county agent in Yavapai County, will succeed him.

Arkansas.—O. U. McKnight, of Louisiana, has been appointed county agent in Lawrence County, and Ruth Fairbairn, of Kansas, has been made home demonstration agent in Carroll County.

Minnesota.—Mrs. Mary Gregg, former home demonstration agent in Marshall County, Iowa, has accepted appointment as half-time home agent in Ramsey County; E. N. Johnson has been made county agent in Renville County, and Anna Olson, former home demonstration agent in Wapello County, Iowa, and in Kankakee County, Ill., also home canning demonstrator in France, is now home demonstration agent in Hennepin County.

North Carolina.—Helen Estabrook has been appointed clothing specialist and W. H. Rankin agronomy specialist in cotton production on the State extension staff.

Ohio.—T. C. Kennard has resigned as county agent in Noble County to enter the business field; C. M. Hampton succeeds Max M. Phillips, resigned, as county agent in Huron County; Addis K. Barthelme is the first home demonstration agent in Stark County, and J. H. Boyd, of West Virginia, has been appointed county agent in Hamilton County, succeeding W. S. Stone, resigned.

Oklahoma.—L. W. Osborn has been appointed extension agronomist to fill the vacancy caused by the resignation of G. C. Gibbons, and Mrs. Elva R. Duvall, formerly home demonstration agent in Pontotoc County, has been made district home demonstration agent on the extension staff. Mrs. Jessie F. Morgan has been appointed home demonstration agent in Pontotoc County; W. L. Fowler county agent in Okmulgee County; Ira T. Goddard, assistant county agent in Osage County, and J. G. Floyd (colored), county agent in Seminole County. M. Edna Corbet, home demonstration agent in Logan County, has resigned.

Oregon.—D. E. Richards, formerly county agent in Lake County, has been appointed to the same position in Grant County, this being its first attempt at extension work. O. S. Fletcher, previously county agent in Latah County, Idaho, is now county agent in Lane County, and C. R. Richards, a former

county agent in Idaho, has become county agent in Coos County.

Wyoming.—W. H. McNees, poultry specialist in the college of agriculture, has resigned to engage in commercial poultry work in Pennsylvania. County Agent L. E. McDaniels was transferred from Big Horn to Washakie County, and R. L. Sheely, assistant county agent in Albany County, has been made county agent in Big Horn County.

NEW LEGISLATION AND COURT DECISIONS

The Arkansas Legislature at a session just closed appropriated \$150,000 for agricultural extension work.

North Carolina's State Legislature appropriated for extension work during the next two years the same amount, \$350,000, as was appropriated for the preceding biennium.

The State Legislature in Wyoming appropriated \$112,000 for extension work for the next biennium, the same amount appropriated two years ago for the same purpose.

The Legislature in Wyoming has also made an appropriation to be administered through the State department of agriculture for a corn show and a pure seed and poultry show, hitherto made possible and fostered by the extension service.

IMPORTANT EVENTS

Many items have been printed about the dead loss from the boarder cow. Here is a new one: W. D. Stegner, county agent in Houston County, Minn., says that one farmer he assisted in securing better cows is now getting as large a cream check from 4 cows as he did from 16 a year ago.

Colorado bankers are actively cooperating through bank loans from 70 per cent of the bankers in the State with the extension service in carrying out many projects such as boys' and girls' club work, livestock work, road improvement, tree planting, and constructive colonization where farmers adopt improved methods and practices intended to put their business on a more economic foundation.

Since the first of this year six new counties in four States have received official recognition as tuberculosis-free areas, following the completion of testing all cattle within their borders. The new counties are in California, Iowa, Minnesota, and North Carolina. This progress swells the total of "modified accredited counties," as they are called, to 59 and is further evidence that tuberculosis eradication is a practical undertaking and a reality.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is rayon a new textile fiber?

Answer. Rayon is the name recently adopted by the trade for what has heretofore been termed artificial or fiber silk. The latter was not only misleading but incorrect since this fiber is not an imitation of silk. In fact, the only characteristic it has in common with silk is luster, and in this rayon excels. Rayon is manufactured from wood pulp and cotton linters by so treating them that they can be dissolved and the resulting liquid formed into small filaments.

Question. Where did home-demonstration agent work start and when?

Answer. According to the records of the department, the first woman county extension agent was appointed early in 1910 to have charge of girls' canning clubs in Aiken County, S. C. A second woman agent was appointed for similar work covering two or three counties in Virginia later in the same year.

Question. Does the department own or manage a commercial creamery where various dairy products are made?

Answer. The department does not own a commercial creamery. However, by an agreement with the Grove City Creamery, Grove City, Pa., the department, through its Bureau of Dairying, supervises the management and operation of this creamery, in order to have proper facilities for applying to commercial conditions the results of certain research work on dairy products and by-products, carried on in the laboratories at Washington, and for studying problems concerning the management and operation of a commercial plant. These investigations include work on Swiss, Camembert, Roquefort, Ricotta, Pecorino, and cottage cheese, casein, concentrated sour milk, lastalbumin, butter, condensed and evaporated milk, market milk, ice-cream mix, the utilization of exhaust steam, the unit cost of certain plant operations, and the cost of hauling milk and cream.

The Bureau of Agricultural Economics is at present planning a survey of the Paris market. Plans may also be made in cooperation with the Department of Commerce for work looking toward trade development there.

WITH EXTENSION FORCES

COMMUNITY SERVICE BY MAIL

The traveling bulletin collection of Tennessee's agricultural extension service, the inauguration of historical county extension records and other features of the community service of which she is in charge, were discussed by Elizabeth Moreland, University of Tennessee, Knoxville, in a recent visit to the Extension Service and other bureaus of the department.

Over 60,000 publications of the experiment stations and extension services of the different States, of the department, and even of the insular stations are contained in the bulletin collection, Miss Moreland said. These are indexed by subject and are loaned to county agents, rural organizations, schools, and individuals living in rural communities. Specialists have also found it helpful to have bulletins loaned to the county agent or demonstrators in counties in which they are carrying on new work. The requests received sometimes list definite bulletins, but more frequently the subject on which information is desired is given and the selection left to the community service.

When bulletins have been assembled that are thought best suited to the local conditions of the community from which the request comes, they are placed in a temporary binding and mailed as a loan for a period of three weeks. On the front of the binder is printed: "Property of Division of Extension, College of Agriculture, University of Tennessee, Knoxville—loaned to you for a definite time only—then to be returned." An addressed envelope is inclosed if the package is small, or a gummed address slip if it is large, with the amount of return postage indicated, to be used in returning the bulletins. Loans are usually made of from 3 to 10 bulletins.

Appreciation of the borrowers for the service and the efficiency of the mailing system are reflected in the record of bulletins returned. Loans of bulletins began in 1919, and to date, Miss Moreland reports, none have been lost. The number of packages of bulletins made up and loaned each year have averaged above 250. A total of 466 packages were loaned during the past year.

Lantern slides numbering over 10,000 on agricultural and home economic subjects are available to extension workers, Smith-Hughes teachers, and local leaders of extension activities, for loan from the community service. Each slide is catalogued and mimeographed lists of slides

by general subject matter are distributed. Persons wishing slides may select them or, as often happens, may indicate the subject and sets of slides are made up by the service to illustrate it.

A new activity of the service during 1924, Miss Moreland states, was the preparation of historical records of extension work by county. Weekly field reports on file from county extension workers and from specialists were clipped and pasted chronologically according to subject matter, so that a history results, showing the beginning and progress of each project in a county as reported by agent and specialist. This is to be kept current in the same manner. The historical records were available for the first time at the recent State conference of extension workers, and the agents found them of much interest. Members of the State staff also find them of service.

REINDEER MEAT SOON ON THE MARKET

A recent Seattle dispatch to the press states that Alaska will enter the world meat market this season by shipping 960,000 pounds of reindeer meat to the United States. A prominent fur trader and reindeer packer of Nome, Alaska, said, "Five artificial ice plants have been established on the Seward Peninsula to take care of reindeer meat products. The limit to raising reindeer in Alaska will be reached in 12 years at the present rate of increase of 30 per cent a year and allowing 10 per cent a year for slaughter. There is room for 4,000,000 animals to graze in northern Alaska. The packing plants have a total capacity of 7,500 head a year."

The Biological Survey is continuing its investigations for the improvement of reindeer in Alaska. These include studies of diseases and parasites, methods of handling the animals, range and herd management, and building up a better type of meat animal through experiments in crossing with caribou. During the present spring a number of young caribou bulls, already held in corals, will be transported from Kokrines, Alaska, down the Yukon River to its mouth, and thence to Nunivak Island, where the experiments will be undertaken.

In response to a letter sent by the secretary of the Chicago U. S. D. A. Club to the members a total of \$388.25 was contributed to the tornado relief fund by those employees of the department. This amount does not include contributions from individuals and offices which were handled through other channels.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

WE HELP THE NAVY GET GOOD BUTTER

For each of the past 16 years the Navy Department has purchased a large quantity of butter made according to specifications prepared by this department. These specifications were devised as the result of investigational work on the manufacture of butter for storage, conducted by the Bureau of Dairying. They provide that the butter shall be made of unripened pasteurized sweet cream, that the workmanship shall be of the highest grade, and that the butter shall contain a limited percentage of moisture and salt. A man under the direction of the Bureau of Dairying, of this department, is stationed at each creamery making Navy butter. The selection of the cream and the entire process of manufacturing and packing the butter are under his personal supervision.

An entire year's supply is usually purchased and packed during the early summer, when a fine quality of butter may be obtained at a relatively low price. The quantity purchased each year is usually from 500,000 to 1,000,000 pounds; in the war year of 1918, however, over 9,000,000 pounds were made for the Navy.

This butter is for use on board ship, and much of it is packed in 5-pound tins hermetically sealed so that ships may carry it without refrigeration, even in the Tropics where the butter melts to a liquid. Being made according to the specifications mentioned above, even exposure to the high temperatures of the Tropics does not materially injure its flavor.

Each year samples of this butter have been set aside in cold storage and examined when about eight months old, and the quality has always been found very satisfactory. Samples of the butter made in the early summer of 1924 were recently examined by an experienced butter judge from New York City. His average score on all samples was 93.2 points. Butter of this score is classed in New York City as "Higher scoring than extras" which is the highest grade of butter on that market. This butter, therefore, even after eight months in cold storage was still a very high grade table butter.

Albert Ashenberger, in charge of the Weather Bureau station at Mobile, has been elected to the executive committee of the recently organized Federal Business Association of Mobile.

BRIEF REVIEWS OF NEW BULLETINS

Experiments with Cereals at the Akron (Colo.) Field Station in the 15-Year Period, 1908 to 1922, Inclusive. By Franklin A. Coffman, associate agronomist, office of cereal investigations, Bureau of Plant Industry. Pp. 63, figs. 29. March, 1925. (Department Bulletin 1287.) Price, 15 cents.

In the region where these experiments were conducted the results obtained are generally applicable to eastern Colorado, northwestern Kansas, western Nebraska, and southeastern Wyoming. The section is primarily devoted to grain production, the most important grain crops being winter wheat, corn, spring wheat, barley, rye, and oats. Possibly 7,000,000 acres were cropped in 1922. As only one-third of the area was under cultivation at that time considerable room for agricultural expansion remained. The results of the growing of various varieties of the different crops give a reliable index to the most profitable ones through a period of years. The relative productiveness of different crops and varieties, together with results from different cultural methods, are discussed in this bulletin.

Statistics of Potatoes and Sweet Potatoes. Year Ended July 31, 1924. With Comparable Data for Earlier Years. Prepared by Bureau of Agricultural Economics. Pp. 51. March, 1925. (Statistical Bulletin 10.) Price, 10 cents.

Detailed statistics on potatoes and sweet potatoes are contained in this bulletin, just released, to aid producers, shippers, and others in growing and marketing the crop. The figures show yields per acre, various operations in production, seed requirements, costs, shipments, international trade, and prices.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of March 30 to April 4, 1925. Copies of these publications may be obtained from the stations issuing them:

Some orchard conditions affected by arsenicals, marls, and other factors. W. P. Headen. (Colorado Sta. Bul. 294, pp. 31, pls. 10. Dec., 1924.)

The thirty-seventh annual report of the Colorado Agricultural Experiment Station for the year 1924. C. P. Gillette et al. pp. 42.

The soy bean crop for fattening western lambs. W. G. Kammlade and A. K. Mackey. (Illinois Sta. Bul. 260, pp. 197-211, figs. 2. Mar., 1925.)

Inspection of agricultural seeds. E. G. Proulx et al. (Indiana Sta. Bul. 285, pp. 63, fig. 1. Jan., 1925.)

Sandiness in ice cream. P. S. Lucas and G. Spitzer. (Indiana Sta. Bul. 286, pp. 12. Jan., 1925.)

Factors affecting the yield of ice cream. H. W. Gregory and V. G. Manhart. (Indiana Sta. Bul. 287, pp. 31. Nov., 1924.)

Cooling cream on the farm for buttermaking. V. C. Manhart. (Indiana Sta. Bul. 290, pp. 8, figs. 6. Jan., 1925.)

Stallion enrollment.—XIII. Report of stallion enrollment work for the year 1924 with lists of stallions and jacks enrolled. (Indiana Sta. Circ. 120, pp. 48, fig. 1. Dec., 1924.)

Thirty-seventh annual report of the Purdue University Agricultural Experiment Station, La Fayette, Ind., for the year ending

June 30, 1924. G. I. Christie and H. J. Reed. pp. 64, figs. 34.

Cultural methods for corn and grain sorghums on Oklahoma soils. H. F. Murphy. (Oklahoma Sta. Bul. 150, pp. 7. Jan., 1925.)

Rations for hogs, dairy cows, beef cattle, horses, and sheep. (Oklahoma Sta. Circ. 57, pp. 8.)

New information for Oklahoma farmers. A biennial report of the Oklahoma Agricultural Experiment Station for 1922-1924. C. T. Dowell. pp. 36, figs. 3.

Comparison of materials used in spraying and dusting for apple scab control in Pennsylvania. H. W. Thurston, Jr., R. C. Walton, and F. N. Fagan. (Pennsylvania Sta. Bul. 190, pp. 20, figs. 5. Dec., 1924.)

Poisoning the boll weevil in the Piedmont section of South Carolina. C. B. Nickles. (South Carolina Sta. Circ. 33, pp. 30, figs. 8. Feb., 1925.)

Articles in Current Publications by Department Workers

Baker, O. E. (Agric. Economics). Geography and wheat production. *Economic Geography*, March, 1925.

Barber, G. W. (Entomology). The efficiency of birds in destroying overwintering larvae of the European corn borer in New England. *Psychic*, vol. 32, No. 1, pp. 30-46, 2 fig., pl. 1, 4 tab., February, 1925.

Barber, H. S. (Entomology). Two new species of Central American Melasidae (Coleoptera). *Proceedings of the Entomological Society of Washington*, vol. 27, No. 3, pp. 62-64, March, 1925.

Barnes, W. C. (Forest Service). When winter comes on the range. *Field Illustrated*, February, 1925.

Blake, S. F. (Plant Industry). Records of *Bidens frondosa* var. *anomala* Porter. *Rhodora*, vol. 27, pp. 34-35, February, 1925.

Boyce, J. S. (Plant Industry). Forest protection—Diseases. Comment on Meinecke's paper. *Journal of Forestry*, vol. 23, pp. 263-269, March, 1925.

Brooks, Charles. (Plant Industry). Injury to apples in storage. *Transactions of the Peninsula Horticultural Society*, 1922, vol. 36, pp. 51-55, 1923.

Busck, August (Entomology). A new North American genus of Microlepidoptera (Glyptoleptidae). *Proceedings of the Entomological Society of Washington*, vol. 27, No. 3, pp. 46-48, pl. 3, March, 1925.

On the genus *Setiostoma* Zeller (Lepidoptera: Stenomitidae). *Proceedings of the Entomological Society of Washington*, vol. 27, No. 3, pp. 48-49, pl. 4, March, 1925.

Caudell, A. N. (Entomology). A new species of myrmecophilous Thysanura from Bolivia. *Proceedings of the Entomological Society of Washington*, vol. 27, No. 3, pp. 43-45, fig. 1, March, 1925.

Colley, R. H. (Plant Industry). Utilization and conservation of the timber supply. *Science*, vol. 61, pp. 107-109. January 30, 1925.

Darrow, G. M. (Plant Industry). Blackberry varieties. *American Fruit Growers' Magazine*, vol. 45, No. 4, pp. 5, 14, April, 1925.

Demaree, J. B. (Plant Industry). Apparent limitations to pecan scab control. *American Nut Journal*, vol. 22, pp. 41-42, March, 1925.

Dillman, A. C. (Plant Industry). Sowing the flax-wheat mixture. *Dakota Farmer*, vol. 45, pp. 230-231. March 1, 1925.

Edler, G. C. (Agricultural Economics). Field Seed Situation. *Seed World*. March 27, 1925.

Fullaway, S. V., Jr., and E. E. Hubert (Forest Service). Air seasoning of lumber in inland empire. *The Timberman*, March, 1925.

Fulton, H. R., and J. J. Bowman (Plant Industry). Preliminary results with the borax treatment of citrus fruits for the prevention of blue mold rot. *Citrus Industry*, vol. 6, No. 3, pp. 10, 30-31, 34, March, 1925.

Gill, Tom (Forest Service). On the trail of mahogany. *Yale Forest School News*, April, 1925.

Gillett, R. L. (Agricultural Economics). Counting chickens before they are hatched. *Cornell Countryman*, March, 1925.

Greeley, W. B. (Forest Service). The business of growing trees. *American Lumberman*, March 28, 1925.

The United States as a market for tropical forest products. *Bulletin of the Pan American Union*, April, 1925.

The Forest Service is sticking to its job. *Outlook*, March 4, 1925.

Hertz, R., and L. H. Bailey. (Chemistry). Comments on "Glycerol as an Aid in Ashing Flour," in *Cereal Chemistry*, vol. 2, no. 1. January, 1925.

Kellerman, K. F. (Plant Industry). Vest-pocket fertilizers. *Bulletin Green Section U. S. Golf Association*, vol. 5, p. 57, March, 1925.

Meinecke, E. P. (Plant Industry). Forest protection—Diseases. *Journal of Forestry*, vol. 23, pp. 260-267. March, 1925.

Mitchell, J. A. (Forest Service). That "harmless" forest fire. *American Lumberman*, March 21, 1925.

Murphy, L. S. (Forest Service). The misuse of sales in valuing forest property. *Proceedings of the National Tax Association*, 1924.

Newlin, J. A., and R. P. A. Johnson (Forest Service). Structural timbers: defects and their influence on strength. *Proceedings of the American Society for Testing Materials*, 1924.

Norcross, T. W. (Forest Service). Where your treasure lies. *Outdoor America*, March, 1925.

Oakley, R. A. (Plant Industry). Fertilizers in relation to quality of turf and to weed control. *Bulletin Green Section U. S. Golf Association*, vol. 5, pp. 50-56, illus. March, 1925.

Peabody, L. E. (Public Roads). Growth curves and railway traffic. *Journal of the American Statistical Association*. December, 1924.

Hours of labor in the manufacturing industry. *Industry Illustrated*. March, 1925.

Reed, C. A. (Plant Industry). Chinese walnut situation. Annual report of the Western Nut Growers' Association, vol. 6, pp. 4-7. 1924.

Reynolds, R. V. (Forest Service). The human machine rest. *American Rifleman*, March 15, 1925.

Schwarz, E. A., and W. M. Mann (Entomology). Colonel Thomas Lincoln Casey. *Proceedings of the Entomological Society of Washington*, vol. 27, No. 3, pp. 42-43, March, 1925.

Sherman, Caroline B. (Agricultural Economics). Combined interests stabilize lamb market. *Banker-Farmer*, April, 1925.

Taking the mystery out of marketing. *Journal of Home Economics*. March, 1925.

Shull, J. M. (Plant Industry). *Apathyema fedida*. *Botanical Gazette*, vol. 79, pp. 45-59, pl. 1-iv, March, 1925.

Thom, Chas. (Chemistry). Future of food inspection. *Proceedings of New Jersey Sanitary Association*, December 5 and 6, 1924.

Walker, J. C. (Plant Industry). On the nature of disease resistance in plants. *Transactions of the Wisconsin Academy of Science*, vol. 21, pp. 225-247. July, 1924.

Studies on disease resistance in the onion. *Proceedings of the National Academy of Science*, vol. 11, pp. 183-189. March, 1925.

Weiss, Freeman. (Plant Industry). The respiration of potatoes in storage. *Potato News Bulletin*, vol. 2, pp. 109-110. March, 1925.

Willingmyre, G. T. (Agricultural Economics). Progress in Development of Wool Standards. *Textile World*. February 7, 1925.

A section of taxonomic investigations has recently been established in the Bureau of Entomology in order to facilitate the identification work and better organize the taxonomic work done by the bureau along lines of investigation which would have a bearing on agriculture and the economic work of the bureau, and in order that taxonomic workers may be represented in all conferences relating to general policies.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Dugear, J. F. Southern field crops. Rev. ed. New York, Macmillan, 1925.
Essays on the spirit of legislation, in the encouragement of agriculture, population, manufactures, and commerce. Tr. from the original French, which gained the premiums offered by the Society of Berne in Switzerland. London, 1772.
Hollman, A. H. Die Entwicklung der dänischen Landwirtschaft. Berlin, P. Parey, 1904.

DOMESTIC ANIMALS AND VETERINARY MEDICINE

- Bellamy, T. Recipes to prepare and administer various medicines for the cure of the diseases incident to cattle, sheep, etc. Bath, 1804.
Congresso paulista de pecuaria. 1st. São Paulo, 1916. Primeiro congresso. S. Paulo, 1916.
Harper, M. W. Animal husbandry for schools. Rev. ed. New York, Macmillan, 1924.
Mason, W. E. Dogs of all nations. San Francisco, Hicks Judd co., 1915.
Netherlands. Departement van binnenlandsche zaken en landbouw. Directie van den landbouw. Rundveehouderij en fokkerij in Nederland. 's-Gravenhage, 1924.

DESIGN

- Batchelder, E. A. Design in theory and practice. New York, Macmillan, 1922.
De Garmo, Charles, and Winslow, L. L. Essentials of design. New York, Macmillan, 1925.

ACCOUNTING

- Gordon, W. D., and Lockwood, Jeremiah. Modern accounting systems. New York, Wiley, 1924.

HUNTING

- Kuechler, O. 'Cooning with 'cooners. Columbus, O., Hunter-trader-trapper co., 1924.

CHEMISTRY AND PHARMACY

- Coxe, J. R. The American dispensary. 3d ed. Philadelphia, 1814.
Dunn, J. T. The progress of chemistry in public affairs. London, Institute of chemistry of Great Britain and Ireland, 1924.
England, J. W. The first century of the Philadelphia college of pharmacy, 1821-1921. Philadelphia, 1922.
Remler, R. F. Acetone, its properties and uses. Bradford, Pa., National wood chemical association, 1924.

FOOD

- Allen, Mrs. I. C. Mrs. Allen on cooking, menus, service. Garden City, N. Y., Doubleday, Page, 1924.
Bailey, N. B. Meal planning and table service in the American home. Peoria, Ill., Manual arts press, 1924.
De Bayarde, L. F. A book of war, victory, and peace recipes for our daily meals. Philadelphia [1919].
Hutchinson, Robert. Food and the principles of dietetics. 5th ed. London, E. Arnold, 1923.
Red cross. U. S. American national red cross. Red cross course in food selection. Washington, 1922.
Some information respecting the use of Indian corn Birmingham, England, 1795.

EVOLUTION

- More, L. T. The dogma of evolution. Princeton, Princeton university press, 1925.

ANATOMY AND ZOOLOGY

- Boston society of natural history. Museum. Guide to the invertebrates of the synoptic collection in the Museum of the Boston society of natural history. Boston, 1905.
British museum (Nat. hist.) Dept. of zoology. Catalogue of the *Batrachia Salientia* s. *Ecaudata* in the collection of the British museum. 2d ed., by George Albert Boulenger. London, 1886.
Helms, O. Danske fugle. København, G. E. C. Gads forlag, 1924.
Hunt, H. R. A laboratory manual of the anatomy of the rat. New York, Macmillan, 1924.

- Lacoste, André. La croissance du crâne chez le mouton. Bordeaux, A. Destout, 1923.
Thèse—Univ. de Paris.

MEDICINE AND HYGIENE

- Hare, H. A. A text-book of practical therapeutics. 19th ed. Philadelphia, Lea and Febiger, 1925.
International conference on health problems in tropical America, Kingston, 1924. Proceedings. Boston, United fruit company, 1924.

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- Coker, W. C., and Matherly, Enid. How to know and use the trees. Chapel Hill, N. C., University of North Carolina press, 1924.
Kehner, Ludwig. Die gartenpflanzen im alten Aegypten. Bd. 1. Hamburg, Hoffman und Campe, 1924.
Sartory, Auguste, and Maire, L. Synopsis du genre *Inocybe*. Paris E. le François, 1923.

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Braun, A. C. H. Conspectus systematicus characearum europaeum. Berlin, 1867.
Höfe, M. A. Die flora der Bodenseegegend. Erlangen, 1850.
Hofmeister, W. F. B. Vergleichende untersuchungen der keimung . . . höherer kryptogamen. Leipzig, 1851.
Richard, L. C. M. De orchideis europaeis annotationes. Paris, 1817.
Savi, Pietro. Flora Gorgonica. Firenze, 1844.
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Wettstein, Richard. Grundzüge der geographisch-morphologischen methode der pflanzen-systematik. Jena, 1898.

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Hutchison, R. H. S. An account of the Chittagong Hill Tracts. Calcutta, Bengal secretariat book depot, 1906.
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CIVIL-SERVICE ANNOUNCEMENTS

Pathologist (sugar-beet investigations), \$3,800—\$5,000. A vacancy in the Bureau of Plant Industry for duty at Rocky Ford, Colo., and vacancies occurring in positions requiring similar qualifications, for duty in Washington, D. C., or in the field, will be filled from this examination. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 5.

Chemist (pharmaceutical), \$3,800. A vacancy in the Bureau of Chemistry, Washington, D. C., and vacancies occurring in positions requiring similar qualifications, for duty in Washington, D. C., or in the field, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 12.

Associate mechanical engineer (high-pressure equipment), \$3,000. A vacancy in the Fixed Nitrogen Research Laboratory, Washington, D. C., and vacancies occurring in positions requiring similar qualifications, throughout the United States, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 12.

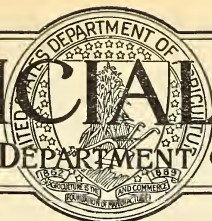
Junior bacteriologist (food products), \$1,860. Vacancies in the Bureau of Chemistry for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close April 25.

The Indianapolis Unity Club held its regular monthly luncheon meeting at the Chamber of Commerce on Monday, March 9. E. O. Snethen, president of the Federated Civic Clubs of Indianapolis, was the guest of the club. After luncheon the minutes of the previous meeting were read and approved. A committee was appointed to invite Governor Jackson, of Indiana, to become a member of the club. Mr. Snethen was then introduced and he addressed the members concerning the proposed commission manager and commission form of government, describing and explaining their relative merits.

Mihkel Pill, director of the plant breeding station at Jõgeva, Esthonia, recently called at the Bureau of Agricultural Economics for information regarding American imports and exports of seeds, location of seed producing sections, and methods of marketing. He also visited several divisions in the Bureau of Plant Industry. He expects to be in this country for about six months.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., APRIL 22, 1925

No. 16

INSECT SURVEY MAY BRING FORECASTING

Predict Great Advance in Economic Entomology—Estimating Meth- ods are Improved

The insect pest survey was instituted by the Bureau of Entomology in March, 1921, to meet a long-felt need among the entomological workers of the country for a medium through which they could keep closely in touch with current insect conditions in the various parts of the country and to provide a repository for their miscellaneous field observations which up to that time were available to only a few.

Object of the Survey

The object of the insect pest survey is to collect accurate and detailed information on the occurrence, distribution, ecology, and relative destructiveness of insect pests throughout the United States, and to study these data from month to month, and year to year, with relation to the several factors that influence insect abundance. The results to be obtained from a survey of this nature, undertaken for a series of years, are manifold; we should be able to throw light on the reasons of the cyclic appearance of insect pests, the gradual shift of regions of destructive abundance, the limiting barriers to normal dispersal, and the directive influences that determine the paths of insect diffusion by studying the relation of climatology, geography, topography, geology, as well as the biological complexes, to insect distribution and abundance. This is the necessary foundation for the next decisive advance in economic entomology—entomological forecasting.

The procedure and organization of the survey utilizes, in the most efficient manner possible, the entomological agencies now existing in the several States. It has upon its force of collaborators prac-

tically all the entomologists of the State agricultural experiment stations, State agricultural colleges, State departments of agriculture, State universities, plant boards, and horticultural commissions. This force is augmented by the Department of Agriculture's entomologists at the many field stations maintained by the Bureau of Entomology in all parts of the country.

At the present time there are 57 official entomologists acting as regular collaborators of the survey. The total number of reporters, however, is many times this number, as practically every collaborator has from 1 to as high as 20 assistants, all of whom are transmitting notes for the survey's files.

The survey has now functioned for four years and has met with such success that the Dominion of Canada has since instituted a similar survey with the same objects as our organization. The two surveys exchange outstanding entomological features each month, thereby keeping entomologists throughout temperate North America in most excellent working contact.

Since its inception the survey has issued 1,375 folio pages of survey data, and has in its files records on over 1,700 species of insects reported as of more or less direct economic importance as pests. These insects represent practically all of the major orders and fall into 1,194 genera.

One of the outstanding features of the survey movement has been the impetus given to improving methods of counting and estimating insect abundance. This was purposely stimulated by the survey through a symposium on methods of estimating insect abundance and damage carried out by the American Association of Economic Entomologists at its annual meeting in 1923-24. Since that time numerous papers have appeared on various phases of this problem, leading quite naturally to the application of the statistical method to entomological research.

The survey is now working on a project to incorporate in its files all of the distributional and statistical data on

(Continued on page 3)

EXPERIMENT STATIONS TO START NEW EPOCH

Secretary Jardine Tells Station Men This Will be Result of the Purnell Act

"A new epoch in the history of the experiment stations will begin as a result of the passage of the Purnell Act," said Secretary Jardine, speaking before agricultural college and experiment station representatives at St. Louis, April 20. "It is the strongest testimony," continued the Secretary, "of confidence in the power of organized agricultural research that this or any other government has ever expressed."

The Purnell Act, passed by the Sixty-eighth Congress, appropriates a total of \$20,000 of Federal money to each State experiment station for the fiscal year 1926, and adds \$10,000 a year to this amount until 1930, when a maximum of \$60,000 will be reached, an amount which will be appropriated to each State annually thereafter. This is three times the present Federal cash support given to these institutions. The act broadens the authorization for investigation in fields that are now looked upon as of primary importance.

Primary Purpose of Act

"The Department of Agriculture, through its administrative relations to the measure," said the Secretary, "will share with the stations both the opportunity and the responsibility which it brings. The department will seek to aid in every feasible way the attainment of the high expectations which the act merits. * * * It is the view of the department that the act attempts to build on top of what already exists and that its primary purpose is to develop further investigation and experiment. So it is the hope and expectation that overhead expenses will be cut to the lowest feasible limit and that this new fund will be restricted, as the act pre-

scribes, 'to paying the necessary expenses of conducting investigations or making experiments * * * and for printing and disseminating the results of said researches.' * * *

"It is a fact-finding and a fact-interpreting measure. * * * The new fund is not for the exploitation of what is known or for speculation based on personal opinion or inadequate data, but is for sound investigation in the best sense. It recognizes in a substantial way the importance of finding solutions for the economic and social problems of the farm. * * * There is a multitude of economic and social problems with which the experiment stations have not been adequately prepared to cope. Before the war the major efforts of the stations centered about production programs which have yielded notable results both in increasing quantity and quality of products produced and in lowering the cost of production. During the war production programs received even greater emphasis than before, and other phases of the industry were all but forgotten. Since the beginning of the depression the demand for help has been insistent and the experiment stations have been doing their utmost to serve. Hampered as they have been by stationary or decreasing revenues, on the one hand, and rapidly mounting operating costs, on the other, they have not been able adequately to meet the demands that have been made upon them.

"The Purnell Act is the Government's answer to this plea for help. Building on the splendid foundation that already has been laid, the act greatly broadens the research work of the stations. * * * While some of the work performed with these funds may lie in fields already occupied, it is believed that the framers of the law intended that for the present at least large emphasis should be placed on the economic and social problems of agriculture.

Conserve Farm Resources

"Our aim should be to develop a well-rounded and efficient type of agriculture in which waste is eliminated and the agricultural resources of the Nation conserved for the use of generations yet to come. In our programs of work we must keep an eye not only to the present but also to the future. Ability to direct adjustments to current conditions is of vital importance, but a knowledge of long-time trends and economic cycles will be no less essential in charting a safe course for agriculture."

The Secretary suggested a number of important economic and social problems now presented for solution. Many of these problems lie in the field of mar-

keting, while others lie in the field of production. Still other questions brought up relate to transportation, highways, trade practices, cooperative marketing, systems of farm management, size of farms, undeveloped lands, credit needs, taxes, tenancy, home economics, and child welfare.

"It is vital to the success of our researches," said the Secretary, "that maximum use be made of the available material and resources, both in the Department of Agriculture and in all of the States. * * * A number of stations no doubt will find themselves lacking in personnel adequately equipped to undertake the newer lines of research. The number of men capable of leadership in economic work is relatively limited. Some stations for the time being may therefore find it wise to strengthen their work in established lines rather than launch new projects for which they can not obtain suitable leadership. Directors of experiment stations, however, have a duty to equip themselves as soon as possible to handle adequately the economic lines of work.

Benefits of Cooperation Far-Reaching

"Cooperation is good for research people as well as for farmers. Waste and needless duplication are just as reprehensible in research as in the handling of farm products, and the Department of Agriculture and the experiment stations should set farmers an example in the elimination of wasteful methods. * * * It is a reasonable expectation that the Purnell Act will lead to a considerable enlargement of the cooperative relations between stations and the various bureaus of the department.

"The time is opportune for taking stock of our present work, both in the Department of Agriculture and in the stations. Useless projects should be weeded out. Wasteful duplication should be stopped. The purely scientific work should be better correlated with the economic work.

"There is also a splendid opportunity for closer cooperation between the research and extension forces. Some of the most effective research work has been inspired through contact with the extension work. On the other hand, extension service can not function efficiently without tested facts that strike at the heart of the farm problem. * * *

"It perhaps ought to be noted that the Purnell Act is not to relieve the States of their obligations. It is not designed to transfer these obligations to the Federal Government, but to enable the latter to join more liberally with the States in the maintenance of investigation at these institutions."

In concluding his talk the Secretary said that if out of this and succeeding conferences can come a heightened feeling of mutual responsibility which will ultimately express itself in a united attack on the agricultural problem of the Nation, the Purnell Act will be truly epoch-making in its results,

Cotton Problems Discussed at Southern Statistical Conference

Nearly 40 members of the Washington staff and field men of the crop reporting service were gathered together at Gulfport, Miss., on March 24, 25, and 26 for the purpose of discussing statistical methods and field problems peculiar to the cotton-producing States. The delegation from Washington consisted of Dr. H. C. Taylor, chief, Bureau of Agricultural Economics, Leon M. Estabrook, J. Clyde Marquis, W. F. Callender, in charge of the Division of Crop and Livestock Estimates, J. A. Becker, S. A. Jones, J. B. Shepard, Charles E. Gage, H. R. Tolley, and B. B. Smith.

Methods for making acreage determinations was the most important subject. Under this head papers were read which analyzed in detail the procedure in making individual farm surveys conducted through rural mail carriers, the first of the kind having been made in the fall of 1924; the technic of measuring the frontage of fields along public highways by means of the so-called "Crop meter," arriving at crop ratios by means of actual counts of the number of fields, or of telephone poles fronting such fields; agricultural censuses conducted by tax assessors in conjunction with their tax listing; special checks that can be applied to special crops, estimating changes in total crop acreage, and problems introduced by interplanted and succession crops.

The intricacies inherent in making acreage estimates are illustrated by the importance attached to the discussion of these and many related subjects.

In their search for checks on acreage and production estimates agricultural statisticians often take note of many things that would not occur to the casual observer, such, for instance, as the increase or decrease in sales of cloth and muslin for shade in the production of shade-grown wrapper tobacco. Changes in number of work animals on farms; fertilizer sales; sales of farm machinery; sale of containers such as crates, cans, barrels, etc.; railroad shipments; loans by banks; even the sales of box labels has been found of value. It will be understood, of course, that such indicators as those mentioned are valuable as collateral information. Chief reliance will always be placed on data obtained from more direct methods of inquiry. As was shown by the proceedings at Gulfport, the crop reporting service is working steadily toward refinement and per-

(Continued on page 7)

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

SPAIN TO IMPORT WHEAT

The Spanish embargo on imports of foreign wheat will be raised on April 25 to permit the importation of from 2,000,000 to 3,000,000 bushels, according to cable advices just received by the department from Madrid. The royal decree of April 7, raising the embargo, authorized the immediate importation after April 25 of 60,000 metric tons, or 2,200,000 bushels, with additional imports of 30,000 metric tons, or 1,100,000 bushels, at the discretion of the Government.

CONSUMERS' MEAT BUYING SURVEYED

A house-to-house survey is being made by the department in 16 cities to determine the meat buying habits of consumers, the kinds of meat purchased, quantity consumed, how the meat is purchased, and the influence of advertising in increasing consumption. A preliminary report on five cities indicates that beef is preferred by three out of five families, pork being given second choice. Fish is the usual food when meat is not served. Use of foods other than meat by native white American families is prompted more often for variety in the diet than for any other one reason.

TO CONFER ON FRUIT AND ROSE STOCKS

A conference is called by the Federal Horticultural Board at the Department of Agriculture, Washington, D. C., for June 29, 1925, at 10 o'clock, a. m., for the purpose of considering the advisability of still further restricting the importation of fruit and rose stocks. In accordance with the general policy of the department, where safety permits, it is understood that should a decision be later arrived at to terminate the further importation of any or all of such stocks, an effective date will be fixed which will allow a reasonable period for adjustment both in this country and abroad.

STUDY MILK AND CREAM CONSUMPTION

Consumption of milk and cream has been steadily increasing in the United States for a number of years, reports the department, which estimates consumption at 52,772,000,000 pounds in 1924, compared with 50,440,000,000 pounds in 1923. This increase, says the

department, is due to improvement in quality of product, delivery in sanitary containers, and a general increase in knowledge of the value of milk in the diet, the result of milk campaigns and special advertising. The figures are based upon reports from boards of health of 354 cities having an aggregate population of 35,303,398 people.

EARLY LAMB CROP MAKING GOOD GROWTH

Weather and feed conditions during March were very favorable in nearly all of the important early spring lamb production areas, reports the department. As a result the early lamb crop made exceptional growth to April 1, and the market movement promises to be several weeks earlier than last year and earlier than normal. The early crop, both as a percentage of ewes and in actual numbers, is large, and with continuing favorable weather will be of unusually good quality.

CHANGE TICK QUARANTINES IN TEXAS

By an official order of the department five Texas counties have just been freed of the restrictions placed on them on account of the presence of Texas fever ticks, and one county has been quarantined because of the presence of Texas fever in its cattle herds. The counties freed are the following: Bee, Refugio, San Patricio, Somervell, and Victoria. The county of Coryell, by the same order, is placed under quarantine because of the presence of fever ticks.

HAY GRADES MEETING WITH FAVOR

Hearings on the proposed United States grades for alfalfa, Johnson and wild hays now being held throughout the country by the Bureau of Agricultural Economics are for the most part proving very successful.

In Alabama the grades for Johnson and alfalfa hay were approved and a committee of producers and dealers named to confer with the State board of agriculture to recommend the adoption of all Federal hay grades as State grades for Alabama. At the Texas meetings representatives of several important Texas hay markets indicated a desire to have Federal grades and inspection and stated that they would encourage the State markets and warehouse department to adopt the grades.

One of the most representative and enthusiastic hearings was held at Phoenix, Ariz. By unanimous vote producers and dealers approved the grades and expressed a desire to have an inspection service at all important ship-

ping points in Arizona. A start was made toward the formation of a State hay association which would cooperate with the department in the establishment of an inspection service. In California the grades were highly commended, but under present conditions no inspection service was desired in the Los Angeles market.

In the State of Washington dealers and consumers voted unanimously in favor of the proposed grading scheme, recognizing in it a simple and practical basis for grading northwestern alfalfa and alfalfa mixed hays. The grades were also approved at Oregon meetings. The Montana State Department of Agriculture indicated that it will recommend the use of Federal standards. Wyoming is in full accord with a program to make hay grades as proposed by this department official in that State and to inaugurate shipping-point inspection as soon as possible in the districts of largest production. Denver dealers and alfalfa mill men as well as members of the shippers' association at Wigwam, Colo., expressed themselves as being in favor of the grades and inspection. They hope to arrange for an inspection service in their territory during the coming year.

Additional hearings on alfalfa hay will be held at the agricultural college at Lansing, Mich., at 10 a. m., April 25, and at room 4, Slocum Agricultural College, Syracuse University, commencing at 10 a. m., April 28.

INSECT SURVEY MAY BRING FORECASTING

(Continued from page 1)

economic insects which have been published in the past. This, of course, will take many years, but when completed will make available the greatest mass of statistical information on insects extant. This is evident when one recognizes that in addition to the decidedly larger output of American economic entomological literature the survey's records are constantly growing at the rate of many thousand notes each year.

Frederick Hagedorn, German Secretary of State for Agriculture, is heading a delegation of Germans to study American methods. The delegation arrived in New York 10 days ago and is expected to visit the department during the course of its stay in this country. This German joint commission of government and agricultural societies is scheduled to spend several months in America studying agricultural economics, farm management, stock raising, dairying, agricultural machinery, soil improvement, seed propagation, and related subjects.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Coordination of Business Administration

MEMORANDUM NO. 530.—April 7, 1925.—In the interest of economy and efficiency and to simplify and facilitate the general business administration of the department, the various offices attached to the office of the Secretary and engaged in personnel and other branches of business administration are hereby consolidated into one unit, which is designated the Office of Personnel and Business Administration. This office will function through two major branches, one of which will handle personnel matters and the other general business administration. Dr. W. W. Stockberger has been designated as director of personnel and business administration, and will have general direction and supervision of the business administration of the department, including the coordination and improvement of the activities of the various bureaus and offices of the department under this heading. W. A. Jump has been designated as assistant director, and will have immediate direction and supervision of the branch of general business operations. He will also continue to act as budget officer of the department.

The director of personnel and business administration will cooperate closely with the other directors where their fields of work are concerned and will advise with the chiefs of bureaus and offices on matters of personnel and business administration involving the activities under their supervision.

The Office of Personnel and Business Administration, for the present, subject to such rearrangement as may be determined upon by the director, will be organized as follows: (1) *Branch of personnel*—to include the work and personnel heretofore assigned to the personnel office, the salary classification office, and the personnel section of the office of inspection; and (2) *branch of business operation*—to include the office of the chief clerk and subsidiary units, the section of accounts serving units of the office of the Secretary, which is hereby placed under the immediate supervision of the chief clerk, the office of purchases and sales, with which the work and personnel of the office of the traffic manager is hereby merged, the division of accounts and disbursements, the fiscal section of the office of inspection, and the employees of the immediate office of the Secretary heretofore en-

gaged principally in budget and finance and other business administration work.

A detailed outline of the organization, duties, and functions of the Office of Personnel and Business Administration will be furnished at an early date. To facilitate the transaction of business, papers originating in the various bureaus relating to matters with which the Office of Personnel and Business Administration is concerned should be sent directly to that office, and incoming mail of the same type upon receipt in the Secretary's file room will be directly referred in a similar manner.

The advisory committee on finance and business methods is abolished, and matters heretofore considered by that committee will for the present be considered by the heads of offices charged with the responsibility in the various lines involved.

In order to expedite the transaction of business the Office of Personnel and Business Administration will be located on the second floor of the Administration Building. The packers and stockyards administration will be located at B Street and Linworth Place, in the building formerly occupied by the office of the solicitor. The solicitor's office will be located in the Administration Building. These changes will be effected as soon as practicable.

CHILD HEALTH-DAY OBSERVANCE

Cooperative extension workers throughout the country, reports indicates, will actively participate in the observance of May 1 as Child Health Day as proposed by the American Child Health Association. This cooperation is felt to be particularly fitting because of the close interdependence between health in the farm home and success on the farm, to further which the efforts of extension workers are directed.

The purpose of the celebration, the association states, is "to focus attention upon our most precious national asset—our children." It is hoped that the celebration may be made an occasion on which communities may take stock of their child-health resources and also a time for renewing efforts for a more comprehensive child-health program.

TO DRAFT REGIONAL PROGRAM

A meeting of the committee on policy of the Association of Southern Agricultural Workers, appointed at its last session, will be held at the Biltmore Hotel, Atlanta, Ga., April 29, to formulate a regional policy with reference to agriculture in the Southern States, to be submitted to the association and the State agricultural agencies for ratification. The various State agricultural programs which have already been adopted are to be used as a basis for the regional policy. Members of the committee are the president of the asso-

ciation, Clarence Ousley, New Orleans, La., chairman; H. A. Morgan, president University of Tennessee, Knoxville, Tenn.; W. B. Bizzell, president Agricultural and Mechanical College of Texas, College Station, Tex.; D. T. Gray, dean college of agriculture, University of Arkansas, Fayetteville; A. H. Stone, vice president Delta Cooperative Association, Dunleith, Miss.; M. B. Wellborn, governor Federal Reserve Bank, Atlanta, Ga.; A. F. Lever, president First Carolinas Joint Stock Land Bank, Columbia, S. C.; and J. A. Evans, assistant chief Office of Cooperative Extension Work in the department.

CLUB-WORK CHAMPIONS VISIT CAPITAL

For the twentieth consecutive year boys and girls who are champions in club work in Chemung County, N. Y., have visited the National Capital during the Easter holidays as a reward for four years of achievement. This year's champions arrived April 10 and left on the 14th. Three girls and four boys won the trip—Margaret Zimdahl, route 7, Big Flats; Herbert Frisbie, route 13, Chemung; Dorothy and Doris Bush, Donald Dann, and Arthur Wallis, Horseheads; and Charles Liscoves, Pine City, N. Y., who are champions in clothing, gardening, cooking, canning, poultry raising, potato growing, and dairying. They were accompanied, as all the 20 groups have been, by Rufus Stanley, club agent of Chemung County, and this year, to mark the occasion of the twentieth annual excursion, by a number of former club members and others interested in club work, including members of farm organizations, school staffs, and business men. Their itinerary included visits to the department to meet the Secretary, to Arlington Cemetery to place a wreath on the grave of the unknown soldier, and to buildings and points of interest in and about Washington.

H. L. Viereck, of the entomological division, Department of Agriculture of Canada, visited Washington during the past month and spent a short time in the Bureau of Entomology, studying the collections of insects. Mr. Viereck was on his way to England to spend several weeks studying types in the British Museum.

Henry Jory, of Lisbon, Portugal, visited the Bureau of Entomology on his way from Florida to Germany. Mr. Jory is engaged in handling insecticides and insecticide machinery.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How many miles of roads and how many miles of trails were constructed within or adjacent to the national forests during the fiscal year 1924?

Answer. One thousand eight hundred and fifty-seven miles of roads and 4,805 miles of trails were constructed during the past fiscal year within or adjacent to the national forests.

Question. On what type of road surface do the majority of automobile accidents occur?

Answer. The Bureau of Public Roads conducted a limited study of automobile accidents on the rural highways in the States of Montana, Oregon, and Washington during nine months of the period from September, 1923, to September, 1924. These data showed that the greatest number of accidents occurred on pavements which represented only 1.9 per cent of the rural road mileage of the three States. But this does not mean that pavements are the most dangerous type per se, but that the paved roads carry more vehicles due to their location near populous centers or on main State arteries, and probably to the higher speed made possible by these types of roads. An attempt was made to determine whether the cement concrete or bituminous pavements were the most dangerous, but was abandoned because of lack of sufficient data to support any positive conclusion. The percentage of accidents attributed to skidding was much higher on the bituminous pavements, but the number of accidents per mile of pavement of each type seemed to be practically the same. The crowded condition of the roads and speed and recklessness seemed to be the chief causes of the accidents, and the increased risk due to a slippery pavement seemed to be minimized by additional caution on the part of the drivers.

Question. Where water carries a large percentage of rust and this rust sticks in a calcareous film to enamel surfaces on sinks and bathtubs, is there any acid, alkali, or other material which will cut this substance and still not injure the enamel or pipes?

Answer. Rust spots on bath tubs and basins are due to iron dissolved in the water. If they do not yield to the action of ordinary household scouring powders, rub the spots with a piece of cloth moistened with a weak solution of oxalic acid. Make the solution by dissolving 1 teaspoonful of oxalic-acid crystals in a half-glass of hot water. If

the rust spot is not removed by this treatment, the iron is probably combined with the enamel in such a way as to stain it permanently.

St. Louis U. S. D. A. Club Puts on Exhibit at National Food Show

An interesting exhibit was given by the St. Louis U. S. D. A. Club at the National Food Show held in St. Louis March 16 to 21, 1925, inclusive.

The different bureaus of the Department of Agriculture had exhibits at this show as follows:

The Bureau of Entomology and the Horticultural Board displayed placards and exhibits showing the ravages of the garden cut worms, Hessian fly, Japanese beetle, brown-tail moth, gypsy moth, European corn borer, and Mexican bean beetle.

The Weather Bureau displayed weather maps showing the movement of a storm across the country, also a cloud chart showing the different kinds of clouds and containing descriptive matter.

The Bureau of Agricultural Economics Live Stock and Fruit and Vegetable Market News submitted daily market reports of these commodities for free distribution.

The Food and Drug Inspection Station displayed specimens of common weeds used in medicine and which were collected in territory contiguous to St. Louis. These products are sold on the market of St. Louis, and the yearly sales run up as high as 500,000 pounds.

The Bureau of Animal Industry gave an instructive exhibit of meat taken from hogs and cattle which plainly showed the ravages of tuberculosis and its effect upon the animal. A full explanation of the methods used by the Department of Agriculture in making its inspection of packing houses was given. Stress was laid upon the purple stamp used by the packing-house inspectors in their rounds of examination. Inquirers were told that meat bearing the Government purple stamp was especially safe to buy, as the Government inspectors were extremely careful and painstaking in their work.

The Meat Inspection Laboratory of the Bureau of Animal Industry displayed different kinds of spices used in the packing industry, and ingredients used in the manufacture of oleomargarine.

Along with the display of the meat specimens an exhibit from the Division of Virus and Serum Control was made which displayed the various viruses and

serums used by the Department of Agriculture to do away with the diseases before they gain a hold on the farmer's stock.

It is estimated that approximately 100,000 people viewed the exhibit at this show. The purpose of the exhibit was to acquaint the public with the work which is being done by the various bureaus of the United States Department of Agriculture located in St. Louis. In the estimation of all concerned the department received liberal and beneficial publicity.

EIGHT NATIONAL FORESTS CREATED

Eight new national forests have just been created by Executive order of President Coolidge, under the provisions of section 9 of the Clarke-McNary Act, which provides for national forests under the administration of the Secretary of Agriculture on existing military and naval reservations.

These forests include two in New York State—the Upton National Forest, established on the site of the Camp Upton Military Reservation in Suffolk County, Long Island, which embraces an area of about 6,200 acres; and the Pine Plains National Forest to be located in Jefferson County upon the site of the Pine Plains Military Reservation, which embraces about 10,000 acres.

Three forests have been established in Virginia—the Lee National Forest, located upon the site of the Camp Lee Military Reservation in Prince Georges County, which embraces about 7,000 acres northeast of Petersburg and close to Hopewell; the Eustis National Forest, located in Warwick County on the site of the Fort Eustis Military Reservation, which embraces 5,000 acres about 18 miles north of Newport News on the James River; and the Humphreys National Forest, located in Fairfax County. The latter forest has an area of approximately 3,000 acres, is situated barely 3 miles from Mount Vernon, and overlooks the historic Potomac River.

The Dix National Forest is located in Burlington and Ocean Counties, N. J., on the site of the Camp Dix Military Reservation. This forest consists of about 6,800 acres and marks the first national forest ever to be established in that State. Maryland also now has a national forest for the first time. The Meade National Forest, established in that State, is located on the site of Camp Meade, in Anne Arundel County, and embraces about 4,725 acres.

A second national forest has been established in Pennsylvania. This is the Tobyhanna National Forest, embracing about 21,000 acres in Monroe and Wayne Counties, and located on the site of the Tobyhanna Military Reservation on the Pocono Mountain.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

THE INDIVIDUAL HOME MAKER AIDED

The home-making woman is expected to be an expert in a number of varied fields, even when she has not had previous training in them. She is supposed to know what foods to give her children for their best growth and health, to be able to choose clothes that will wear well for each member of the family, to judge the good points of different labor-saving devices, to succeed in making the family income provide necessities, recreation, and a safe margin for the future, and to make the wisest use of her own time in order to produce a satisfactory home life for everybody.

While it is conceivable that a few exceptional women might have received adequate preparation for carrying on the complicated task of home making, the majority of home makers must look to a group of specialized scientists to help them keep abreast of changing methods, newly established facts, and a broad general view of home making in its relation to the community.

By the creation of the Bureau of Home Economics the machinery has been set up for conducting research in the problems of the home, for collecting information on home-economics research carried on outside the Federal bureau, and for placing such information in the hands of the home maker who needs it. It is possible to foresee that in the near future the home maker who lacks specialized training may avail herself of the results of research work done all over the world in home economics.

Three main divisions have been developed in the bureau thus far—foods and nutrition, clothing and textiles, and economic studies. A beginning has been made in housing and equipment, and other divisions dealing with art in the home and with family relationships will be developed as rapidly as funds and trained workers become available. The bureau will keep in touch with other agencies working along the same lines, so that duplication will be avoided, and it will call the attention of scientific workers in many fields to home conditions, so that their findings will be more applicable to home-making problems.

Under foods and nutrition are being studied such problems as planning the family meals from the standpoint of

health and economy, canning and other home methods of food preservation, and the vitamin content of certain foods. The division of textiles and clothing will conduct research to show how the fibers and weaves of textiles affect the wearing quality, and other points of vital interest to the consumer. Short-cut methods in cutting and constructing garments are also being studied. Estimates have been collected from typical groups of farm families, which indicate the use of the income for food, clothing, and other items of living. These are being analyzed as rapidly as possible by the economic division and will show, among other things, what proportion of the family living comes from the farm without cash expenditure. The distribution of the housewife's time is another important feature of the economics of house-keeping which is being investigated. It is hoped that suggestions for making a time budget as well as a money budget will be prepared when these studies are completed.

Almost everyone is familiar with the bulletins on household subjects already available. Several of those issued by the department in the past are being revised and brought up to date, and there are a number of others under preparation at present, or planned for issue when certain projects of work have been completed. In the meantime, brief reports of interest to homemakers are issued through newspapers and magazines whenever occasion arises. From time to time the bureau is called on to prepare exhibits, charts, or other illustrative material within its various fields. The cooperative extension service of the department is at all times in touch with the work of the bureau and carries the results of research directly to the woman on the farm. A very heavy correspondence is handled by the bureau. It consists largely of inquiries on home economics problems from homemakers, teachers, and other professional workers who look to a Federal bureau of home economics for information on many phases of the subject. More than 5,000 letters were dictated during the fiscal year 1924.

WITH EXTENSION FORCES

COMPETE IN PROJECT EXHIBITS

Intercounty competition of home-project exhibits is used in Iowa at the State fair as a means of creating interest in the study of home making, says Neale S. Knowles, State home demonstration leader for Iowa in her 1924 report.

This type of exhibit was first used three years ago, she continues, at the suggestion of a group of farm women who were anxious to improve home-project work in their own counties.

The first year, 12 counties sent exhibits, the second year 18 counties were represented, and in 1924, 24 counties prepared exhibits which were visited by 10,800 people. Although it is necessary that requests for space be made not later than December 1 of the preceding year, last year more counties asked to compete than could be accommodated, even in the large space which was made available.

Rules for counties entering the contest require, among other points, that the exhibit represent five months' work on a county-wide home project which has been written jointly by local committeewomen and the home demonstration agent. Each county is expected to send an active, interested person to be in charge of the exhibit during the entire fair, and each county must put its exhibit in place and pack it for return at the end of the fair.

An interesting feature of the plan is the program for half-hour lecture demonstrations. These attract large audiences and are given throughout each day in the exhibit room by the farm women who represent the counties.

A score card serves as a guide and sets the standard to be reached by the exhibits. It covers 11 items and totals 1,000 points. The means used to present the chief features of the home project so that visitors to the exhibit would be convinced that the project is worth while is considered the most important item in scoring and offers a possible 250 points. A large map giving information on the county-wide project may be worth up to 200 points. This map includes records of such items as local leaders, co-operators, township committee meetings, meetings held by local leaders (total attendance to be not less than 2,000), number of people adopting the suggestions (to be at least 1,000), and similar features.

Some other items of the exhibit which are scored are a copy of the county project with names and addresses of county project committee, posters and photographs showing how the county-wide project was presented, summary of results, mounted copies of newspaper clippings regarding the project, and the demonstration given by the local leader in charge of the exhibit. Fifty points are given if not less than 600 persons register at the booth, this depending, of course, not only upon the exhibit but upon the salesmanship of the person in charge. There was an average of 600 visitors registering at each booth in the 1924 contest.

BRIEF REVIEWS OF NEW BULLETINS

The Pecan Nut Case-Bearer. By John B. Gill, associate entomologist, fruit insect investigations, Bureau of Entomology. Pp. 12, pls. 4. April, 1925. (Department Bulletin 1303.) Price, 5 cents.

The pecan nut case-bearer is one of the most formidable enemies of the pecan, because of its nut-feeding habits. The best method of control so far found by the Bureau of Entomology in its studies at Monticello, Fla., is spraying with arsenate of lead. The addition of lime to the spray is necessary to prevent arsenical injury to the foliage and nuts. Details of the proportions of lead and slaked lime to be used, and also the best times for applying the spray, are given in this bulletin.

ADDITIONAL PUBLICATIONS

Service and Regulatory Announcements. Bureau of Dairying, No. 1. Pp. 1-7. April, 1925. Price, 5 cent.

— Insecticide and Fungicide Board. No. 50. Notices of Judgment, 951-975. Pp. 1147-1168. March 25, 1925. Price, 5 cents.

Experiment Station Record. Vol. 52, No. 2. February, 1925. Pp. 101-200. Price, 10 cents.

— Vol. 52, No. 3. February Abstract Number. Pp. 201-300. Price, 5 cents.

Note.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price \$1.25 a volume, payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Service and Regulatory Announcements. Bureau of Chemistry, No. 189. Notices of Judgment, 12901-12950. Pp. 491-516. April, 1925. Price, 5 cents.

— Bureau of Chemistry, No. 190. Notices of Judgment, 12951-13000. Pp. 517-541. April, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of April 6-11, 1925. Copies of these publications may be obtained from the stations issuing them.

Forty-seventh annual report of the Connecticut Agricultural Experiment Station, being the annual report for the year ended October 31, 1923. W. L. Slate, Jr., et al. pp. viii + 534 + xviii, pls. 20, figs. 84.

Infectious abortion in cattle. Sixth report. Methods of conducting the agglutination and complement fixation tests, and their diagnostic value. L. F. Rettger, J. G. McAlpine, and G. C. White. (Connecticut Storrs Sta. Bul. 125, pp. 23. Dec., 1924.)

Feeding purebred draft fillets. J. L. Edmonds and C. W. Crawford. (Illinois Sta. Bul. 262, pp. 245-260, figs. 13. Apr., 1925.)

Inspection of commercial fertilizers. H. D. Haskins, L. S. Walker, and G. B. Dalrymple. (Massachusetts Sta. Control Ser. Bul. 29, pp. 32. Nov., 1924.)

A progress report of boll weevil poisoning work at the Holly Springs Branch Experiment Station. C. T. Ames. (Mississippi Sta. Circ. 54, pp. 12. Dec., 1924.)

Fertilizer tests with cotton in North Mississippi. Holly Springs Branch Experiment Station. (Mississippi Sta. Circ. 55, pp. 4. Dec., 1924.)

Cotton experiments. South Mississippi Branch Experiment Station. E. B. Ferris. (Mississippi Sta. Circ. 56, pp. 8. Dec., 1924.)

Sweet potato experiments. South Mississippi Branch Experiment Station. W. S. Anderson and F. B. Richardson. (Mississippi Sta. Circ. 57, pp. 7. Dec., 1924.)

Tomato experiments at the South Mississippi Experiment Station. W. S. Anderson and F. B. Richardson. (Mississippi Sta. Circ. 58, pp. 7. Dec., 1924.)

Grape experiments at the South Mississippi Experiment Station. W. S. Anderson. (Mississippi Sta. Circ. 59, pp. 6. Dec., 1924.)

Some further facts relative to the principles underlying the making and use of nicotine dust. T. J. Headlee and W. Rudolphs. (New Jersey Sta. Bul. 400, pp. 44, figs. 20. Aug., 1924.)

The effect of the weight of the seed on the growth of the plant. D. Schmidt. (New Jersey Sta. Bul. 404, pp. 19. Nov., 1924.)

Alfalfa yields, cultural practices and production costs as influenced by the soil formation in New Jersey. G. W. Musgrave and A. G. Waller. (New Jersey Sta. Bul. 408, pp. 31, figs. 11. Mar., 1925.)

Control of the cranberry girdler by submerging in water. C. S. Beckwith. (New Jersey Sta. Bul. 411, pp. 14, fig. 1. Feb., 1925.)

Spray calendar for apples and quinces. (New Jersey Sta. Circ. 173, pp. 4, fig. 1. Feb., 1925.)

Spray calendar for peaches. (New Jersey Sta. Circ. 174, pp. 4, figs. 3. Feb., 1925.)

A preliminary report on the oriental peach moth in New Jersey. A. Peterson and L. A. Stearns. (New Jersey Sta. Circ. 175, pp. 11, figs. 7. Mar., 1925.)

High fecundity in Leghorns as an inherited character. G. W. Horvey. (New Jersey Sta. Hints to Poultrymen, vol. 13, No. 6, pp. 4, fig. 1. Mar., 1925.)

Importance of green feed for poultry. W. H. Allen. (New Jersey Sta. Hints to Poultrymen, vol. 13, No. 7, pp. 4, fig. 1. Apr., 1925.)

Wire stem of cabbage. L. O. Gratz. (New York Cornell Sta. Mem. 85, pp. 60, pls. 7, figs. 15. Jan., 1925.)

Advertising farm products by farmers and farm organizations. A. H. Benton. (North Dakota Sta. Bul. 185, pp. 32, figs. 25. Jan., 1925.)

A survey of sheep production on 200 farms in northeastern North Dakota and northwestern Minnesota and the general sheep situation. R. D. Jennings et al. (North Dakota Sta. Bul. 186, pp. 58, figs. 9. Jan., 1925.)

Vegetable varieties for North Dakota. A. F. Yeager. (North Dakota Sta. Bul. 187, pp. 27, figs. 9. Feb., 1925.)

The monthly bulletin. (Ohio Sta. Mo. Bul., vol. 10, No. 1-2, pp. 32, figs. 6. Jan.-Feb., 1925.)

Studies in nutrition. P. Menaud. (Oklahoma Sta. Bul. 152, pp. 13, figs. 5.)

The price of feed utilities. G. S. Fraps. (Texas Sta. Bul. 323, pp. 24, figs. 5. Sept., 1924.)

Sheep management in southwest Virginia as shown by a survey of 100 farms. C. R. Nobles. (Virginia Sta. Bul. 238, pp. 20, fig. 1. Dec., 1924.)

A study of the principal changes which take place in the making of silage. W. H. Peterson, E. G. Hastings, and E. B. Fred. (Wisconsin Sta. Research Bul. 61, pp. 33, figs. 5. Jan., 1925.)

Articles in Current Publications By Department Workers

Coat, B. R. (Entomology). Don't relax your fight against the boll weevil. Valley Farmer & Citrus Grower, vol. 3, No. 1, p. 7, March, 1925.

Cook, O. F. (Plant Industry). Peru as a center of domestication. Tracing the origin of civilization through the domesticated plants. Journal of Heredity, vol. 16, pp. 35-46, February, 1925.

Fink, D. E. (Entomology). Metabolism during embryonic and metamorphic development of insects. Journal of General Physiology, vol. 7, No. 4, pp. 527-543, 18 figs., 3 tab., pp. 4, March 20, 1925.

Howard, L. O. (Entomology). The needs of the world as to entomology. Annals of the Entomological Society of America, vol. 18, No. 1, pp. 1-21, March, 1925.

Kempton, F. E., G. C. Curran, and E. D. Griffin (Plant Industry). Barberry eradication in Illinois. Transactions of the Illinois State Academy of Science, vol. 16, pp. 198-209, 1923. (Reed, 1925.)

Leighty, C. E., and W. J. Sando (Plant Industry). A handy pollen carrier. Journal of Heredity, vol. 16, pp. 63-65, February, 1925.

Nason, Wayne C. (Agric. Economics). Making use of the country church building. Adult Bible Class Monthly, May, 1925.

Nelson, E. W. (Biological Survey). Congress advances wild-life conservation. National Parks Bulletin, No. 43, pp. 7-9, March 24, 1925.

Newcomer, E. J. (Entomology). Summer oil sprays. Proceedings of the Washington State Horticultural Association, 1924, pp. 93-97.

Oberholser, Harry C. (Biological Survey). December and January birds about Washington. Bird-Lore, vol. 27, No. 2, pp. 114-115, March-April, 1925.

The migration of North American birds. XXVII (Hummingbirds). Bird-Lore, vol. 27, No. 2, pp. 103-104, March-April, 1925.

Parker, H. L. (Entomology). Recherches sur les formes post-embryonnaires des Chalcidies. Annales de la Société Entomologique de France, 1924, No. 4, pp. 261-379, pls. 2-39.

Preble, E. A. (Biological Survey). Metamorphosis of the spring frog. Nature Magazine, vol. 5, No. 4, p. 232, April, 1925.

Sherman, Caroline B. (Agric. Economics). Extending the strawberry season. American Cookery, April, 1925.

Snyder, T. E. (Entomology). New American termites, including a new subgenus. Journal of the Washington Academy of Sciences, vol. 15, No. 7, pp. 152-162, April 4, 1925.

Spencer, G. C. (Chemistry). The quantitative determination of moisture in flour. Journal Assoc. Official Agricultural Chemists, vol. 8, No. 3, February 15, 1925.

Taylor, Henry C. (Agric. Economics). Buy comfort—not more land. Country Gentleman, March 28, 1925.

Taylor, W. P. (Biological Survey). Cooperation among scientific men. Scientific Monthly, vol. 20, No. 4, pp. 345-357, April, 1925.

Yothers, M. A. (Entomology). "Treehoppers," new orchard pests in the Pacific Northwest. Proceedings of the Washington State Horticultural Association, 1924, pp. 97-102.

(Continued from page 2)

Cotton Problems Discussed at Southern Statistical Conference

fection of these direct methods of inquiry and of methods of interpretative analysis.

Closely related to the group of papers read and discussed under the general heading of acreage were those devoted exclusively to cotton estimates. In all there were about 45 subjects for discussion, ranging all the way from crop-reporting methods in Argentina to estimating the lamb crop in Tennessee.

Among those attending the conference were several junior agricultural statisticians, apprentices in the service, and representatives of two State departments of agriculture with which cooperation in crop reporting work is maintained.

"Economic limits of the cost of water for irrigation" is the title of a study being made cooperatively by the Bureau of Agricultural Economics and the Bureau of Public Roads. About 6,000 schedules have been obtained through census enumerators from farmers in the irrigated regions of the West.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Dyke, W. Manures and fertilisers. London, Collinsbridge, 1924.
 Egypt. Public works dept. Mesopotamia as a country for future development, by A. B. Buckley. Cairo, 1919.
 Howard, Albert. Crop production in India. London, H. Milford, 1924.
 Hungary. Aktiengesellschaft für landwirtschaftliche Industrie. Kurze Beschreibung der pachtdomänen Kaposvár und Toponár. Budapest, 1911.
 Sociedad rural Argentina, Buenos Aires. Programa y reglamento de la 2. Exposición de productos de granja. Buenos Aires, 1924.
 Yong, Arthur. The farmer's letters to the people of England. 3d ed. London, 1771.

VETERINARY MEDICINE

- Bohndorf, K. E. Zur spezifität der bei staupenkranken hunden vorkommenden staupekörper im gehirn und rückenmark. Wittenberge, Gebr. Bischoff [1924?] Inaug.-diss.—Berlin.
 Gt. Brit. Ministry of agriculture and fisheries. Departmental committee on foot-and-mouth disease. Report. London, 1925.
 Hoppe, K. H. C. Untersuchungen über das lobuläre emphysem in der lunge des schweines. Hamburg, 1924. Inaug.-diss.—Berlin.
 Joseph, Hans. Über die verwendbarkeit des desintol in der tierheilkunde. Wriszen (Oder). A. Settekorn, 1924. Inaug.-diss.—Berlin.
 Kieback, Friedrich. Das blutbild des an sarcopites- und acarusrüde erkrankten hundes unter besonderer berücksichtigung der eosinophilen zellen. Berlin, H. S. Hermann, 1924. Inaug.-diss.
 Lifka, Felix. Vergleichende untersuchungen über die größe und form der akarumilben des hundes. Berlin, 1922. Inaug.-diss.

HORTICULTURE

- Cloud, D. M. P. The culture of perennials. New York, Dodd, Mead, 1925.
 Henslow, T. G. W. Garden improvement. London, Dean, 1924.
 Jarbich für gartenkunde und botanik. Jahrg. 1-7. Braunschweig, 1884-90.
 Maccafi, A. J. The horticultural exhibitor. London, T. Butterworth, 1924.
 Mütze, Wilhelm, & Camillo Schneider. Das rosenbuch. Berlin, Gartenschönheit, 1924.

FORESTRY AND CONSERVATION

- Friends of our native landscape. A park and forest policy for Illinois. Chicago, 1924.
 Harris, Garrard. Elements of conservation. Richmond, Va., Johnson publishing company, 1924.
 Nirschl, J. Die forstwirtschaft in Niederländisch-Indien. Leipzig, 1920. (Germany Auswärtiges amt. Auslandswirtschaft in einzeldarstellungen. bd. 6)

TECHNOLOGY

- Gardner, H. A. Physical and chemical examination of paints, varnishes, and colors. 2d ed. Washington, Institute of paint and varnish research, 1925.
 Gt. Brit. Factory inspector's office. Memorandum on dry cleaning. 2d ed. London, 1924.
 Textile recorder. The "cotton textile industry." Manchester, Eng., 1924.

CHEMISTRY AND PHARMACY

- Handbuch der experimentellen pharmakologie, hrsg. von A. Heffter. bd. 1-2. Berlin, J. Springer, 1923-24.
 Mason, F. A. An introduction to the literature of chemistry for senior students and research chemists. Oxford, Clarendon press, 1925.
 Silberstein, Artur. Untersuchungen am kymographion über die wertigkeit von oleum chenopodii. Berlin, J. Springer, 1925. Inaug.-diss.

FOOD AND BEVERAGES

- Boyd, J. D., & others. A simplified method of dietary management of diabetes mellitus. Iowa City, 1924.
 Kestner, Otto, & Knipping, H. W. Die ernährung des menschen. Berlin, J. Springer, 1924.

- Warcollier, G. Pomologie et cidrerie. 2. éd. Paris, Baillière, 1920.

ZOOLOGY

- Hovell, T. M. Rats and how to destroy them. London, J. Bale, sons & Danielsson, 1924.
 Imms, A. D. A general textbook of entomology. London, Methuen, 1925.
 Michaelson, Wilhelm. Beiträge zur kenntnis der land- und süßwasserfauna deutsch-südwestafrikas. bd. 2, 1fg. 3. Isopoda, von A. Fanning. Hamburg, L. Friederichsen, 1924.

BOTANY

- Botanische zeitung. Jahrg. 1-6, 1802-07.
 Dupetit-Thouars, L. W. A. A. Essais sur la végétation. Paris, Arthus-Bertrand, 1809.
 Kostychev, S. P. Pflanzenatmung. Berlin, J. Springer, 1924.
 Threlkeld, Caleb. Synopsis stirpium hibernicarum alphabetice dispositarum. Dublin, 1727.

ECONOMICS AND STATISTICS

- Aereboe, Friedrich. Betriebswirtschaftliche vorträge aus dem gebiete der landwirtschaft. hft. 1-7. Berlin, P. Parey, 1919-23.
 Houston, Tex., Chamber of commerce. Texas—the center of southwestern agricultural development. Houston—the southwestern market for diversified agriculture. Houston, 1916.
 International institute of agriculture. Bureau of agricultural intelligence and plant diseases. Enquête sur l'amélioration de la condition sociale et morale de la famille rurale. Rome, 1923.
 Thurstone, L. L. The fundamentals of statistics. New York, Macmillan, 1925.
 Wentworth, E. N., & Ellinger, T. U. H. Marketing livestock and meats. Chicago, Armour's livestock branch, Union stock yards, 1925.

REFERENCE BOOKS

- American silk journal. A dictionary of silk terms. New York, 1925.
 Long, J. C. Public relations; a handbook of publicity. New York, McGraw-Hill, 1924.
 Whipple, T. H. B. Principles of business writing. East Pittsburgh, Pa., Westinghouse technical night school press, 1924.

CIVIL SERVICE ANNOUNCEMENTS

Associate entomologist, \$3,000; assistant entomologist, \$2,400. Vacancies in the Bureau of Entomology for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year for associate entomologist, and up to \$3,000 a year for assistant entomologist. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 19, 1925.

Chemical engineer, \$3,800. A vacancy in the Fixed Nitrogen Research Laboratory, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 19, 1925.

The last of the series of hearings on dry edible beans as proposed by the Bureau of Agricultural Economics will be held at Kerns Hotel, Lansing, Mich., commencing at 10 a. m., April 23, and at the Powers Hotel, Rochester, N. Y., at 10 a. m., April 27.

EXTENSION NEWS ITEMS

CHANGES IN PERSONNEL

Arkansas.—Caroline Kesler has been appointed home demonstration agent in Benton County to succeed Mrs. Elizabeth Temple, who has resigned to become supervisor of home economics work for the Frisco Railroad. L. P. Smith, county agent in Randolph County, has resigned to go into commercial work.

Kansas.—D. R. Porter has been appointed specialist in plant pathology on the State extension staff; Mabel McMahon has been appointed home demonstration agent in Meade County, and Mrs. Florence Dresser-Syverud in Allen County. L. F. Neff is now county agent in Cloud County; J. E. Norton in Meade County; E. H. Aicher in Harper County, and H. E. Ratcliffe in Comanche County.

New Jersey.—R. E. Harman, of Pennsylvania, has been appointed county agent in Middlesex County.

North Carolina.—S. J. Kirby, formerly State club agent, has been transferred to agronomy work and the supervision of club work assigned to J. M. Gray, assistant director.

Virginia.—Charles E. Seitz, who resigned as head of the department of agricultural engineering in the station, college, and extension division, March 1, has returned to his former position after one month's absence. Helen Ricks, formerly home demonstration agent in Mecklenburg County, has been appointed acting State girls' club agent, while Hallie L. Hughes is absent on leave for the remainder of the year. Lulu V. Walker has resigned as food specialist of the extension division, effective April 1.

FORTHCOMING CONFERENCES

The annual conference of Arkansas extension workers will be held at the College of Agriculture, University of Arkansas, Fayetteville, August 15-18. This conference follows immediately after the farmers' week, the dates of which are August 11 to 14.

The annual extension conference of Iowa county agents, home demonstration agents, club agents, extension specialists, and farm bureau representatives will be held at Ames October 7, 8, and 9.

The New Jersey Farmers' Field Day will be held June 18 with the cooperation of the experiment station, college of agriculture, and the State extension service. Vegetable growers, general farmers, poultrymen, dairymen, floriculturists, fruit growers, and housewives are all to be considered in making up the program.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., APRIL 29, 1925

No. 17

SECRETARY STUDYING BUILDING PROGRAM

Committee Appointed to Consider Three Proposed Schemes Sub- mitted by Secretary Mellon

The problem of properly housing the 4,000 employees of the department, now scattered over the city of Washington in 46 buildings, is at present being given careful consideration by Secretary Jardine and Secretary of the Treasury Mellon. A tentative building program, proposing three different schemes has been worked out by the Office of the Supervising Architect of the Treasury. The three schemes are as follows:

Scheme A: Completion of the original building plan for the department, which would mean the construction of a central pavilion, with a dome as a feature, uniting the two wings which have already been completed, and the continuation of the structure to complete the quadrangle, thereby giving a total ground area of approximately 77,000 square feet with an available office space of about 225,000 square feet. The estimated cost of this proposal is \$7,300,000.

May Reject Proposed Dome

Scheme B: This scheme is divided into two projects. The first comprises the construction of a center pavilion uniting the two wings, but redesigned by substituting for the dome two additional stories. This, as well as an extension toward the rear, would furnish 90,000 square feet of office space as against only 46,000 square feet as now designed. It is believed that the substitution of two additional stories for the dome could be accomplished without detriment to the appearance of the contemplated structure.

The second project under scheme B contemplates the purchase of a block on the south side of B Street and the erection thereon of a seven-story commercial type building with a ground area of

approximately 60,000 square feet, giving a net space of approximately 260,000 square feet. The story height of this building would be the same as that of the center pavilion, with the view of eventually connecting this building with the main building. This building would be entirely screened in case the original building be enlarged.

The two projects under scheme B furnish a total of 250,000 square feet net area, which it is believed would meet the immediate needs of the department. The estimated cost is \$5,850,000.

Scheme C: Construction of the center pavilion uniting the present two wings, furnishing approximately 90,000 square feet additional, and using the completed structure as the administration building of the department: In addition to this, the purchase of a suitable tract of land at some distance from the city, but in the District of Columbia, where a series of buildings would be erected for the use of the many bureaus of the department. The estimated cost of this proposal is \$6,000,000.

Assistant Secretary Heads Committee

Secretary Jardine last week announced the appointment of a committee of officials of the department to consider the various proposals of the Treasury Department and to recommend whatever program seems to be the best possible solution. This committee consists of Assistant Secretary Dunlap, chairman; E. A. Sherman, Forest Service; Dr. K. F. Kellerman, Bureau of Plant Industry; C. W. Kitchen, Bureau of Agricultural Economics; M. C. Betts, Bureau of Public Roads; Harry Goding, Bureau of Animal Industry; and R. M. Reese, Office of Personnel and Business Administration, secretary.

In announcing the appointment of this committee Secretary Jardine said:

"An important matter which should receive attention is the question of proper housing of the various bureaus and offices of the department. I am fully aware of the present unsatisfactory situation in this respect, and expect to do everything in my power to bring about an improvement. The Treasury Depart-

Continued on page 3

HIGHWAY BOARD MAKES TENTATIVE PROPOSALS

Simplicity and Uniformity Seen in Suggestions Advanced for Marking of Highways

Tentative agreement on the form and color of warning and directional signs to mark the principal interstate roads of the country was reached by the Federal-State Highway Board, in session at Washington, Monday and Tuesday, April 20-21. Highways to be marked as interstate roads, for which the name "United States highways" has been proposed, will be selected after a series of regional meetings of members of the board with highway officials of groups of States.

The joint board was appointed recently by the Secretary of Agriculture at the suggestion of the American Association of State Highway Officials. As its membership is made up of State and Federal officials in charge of highways and is representative of the departments in control of the State roads of all States, it is anticipated that the recommendations of the board will be translated into definite action within a few months.

Certain Trails Will Keep Markings

The board decided to adopt as its policy the recommendation of the American Association of State Highway Officials that the reputable trails associations now existing be permitted to continue their markings, unless they conflict with the marking systems and policies now in force in the several States. But no trail association will be permitted to establish further routes on State or Federal-aid roads. The board commends to the attention of all citizens the warning of the association to investigate carefully the responsibility of trail organizers and to demand convincing evidence insuring proper expenditure of funds before contributing to or otherwise supporting such agencies.

The routes selected as United States highways will be numbered and marked uniformly in all States with a standard marker. All State highway departments will be asked to submit proposals for the design of the marker. The design tentatively proposed by the board consists of a United States shield with a white background bearing in black the letters "U. S.," the number of the route in large numerals, and the name of the State in which the marker is erected.

Signs of Various Shapes Suggested

Differences which now exist between the warning and danger signs in use by the various States will also be eliminated when the recommendations of the board are adopted, at least so far as the interstate roads are concerned. Tentative proposals adopted at the first meeting of the board call for the adoption of a standard round sign for marking all railroad crossings; an octagonal sign to indicate danger or stop; a diamond-shaped sign for caution or slow; a square sign to indicate "look" or attention; and a rectangular shape for directional or informational signs.

Colors tentatively adopted for nonluminous signs are yellow for warning and danger signs and white for directional and informational signs, including the route markers. Lettering on both classes of signs will be in black. For luminous and reflecting signs the colors tentatively selected are red for danger, yellow for caution, and green to indicate "go."

Standardization of the sizes of all signs and the lettering on them will be referred to a subcommittee of the board.

All recommendations of the board with regard to the shape, size, and color of signs will be submitted to the highway departments of all States for consideration before final adoption by the board.

The regional meetings for the selection of the United States highways will be held within the next two months, probably in San Francisco, Kansas City, Chicago, Atlanta, New York, and Boston. Action taken at these meetings will be reviewed and correlated at the next meeting of the board, to be held early in August.

T. H. MacDonald Heads Board

Members of the board in attendance at the meetings which terminated sessions April 21 were: Thomas H. MacDonald, chief of the Bureau of Public Roads, Washington, D. C., chairman; E. W. James, chief of design, Bureau of Public Roads, Washington, D. C.; A. B. Fletcher, consulting highway traffic engineer, Bureau of Public Roads, Washington, D. C.; C. S. Avery, chairman Oklahoma Department of Highways; C.

M. Babcock, commissioner of highways, Minnesota Highway Department; L. A. Boulay, director department of highways and public works, Ohio; O. A. Brown, North Dakota State Highway Commission; H. C. Dietzer, State highway engineer, Mississippi; J. A. French, State highway engineer, New Mexico; F. S. Greene, superintendent of public works, New York; A. H. Hinkle, superintendent of maintenance, Indiana State Highway Commission; W. O. Hotchkiss, chairman Wisconsin Highway Commission; J. A. MacDonald, highway commissioner, Connecticut; C. H. Moorefield, State highway engineer, South Carolina; P. G. Peterson, chairman State Road Commission of Utah; B. H. Piepmeyer, chief engineer, Missouri State Highway Commission; F. F. Rogers, State highway commissioner, Michigan; F. T. Sheets, chief highway engineer, Illinois; H. G. Shirley, chairman Virginia State Highway Commission; W. G. Sloan, State highway engineer, New Jersey; and W. F. Williams, commissioner of public works, Massachusetts.

Other members, unable to attend were: C. P. Fortney, chairman West Virginia State Road Commission; R. A. Klein, State highway engineer, Oregon; and R. M. Morton, State highway engineer, California.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

FOREST RESEARCH IN THE SOUTH

The Southern Forest Experiment Station, with headquarters in New Orleans, is studying the forest problems of the nine States from South Carolina to Oklahoma and Texas. This huge territory probably contained originally a larger area of continuous forest than that covered by any other forest experiment station in the United States. For some years past the southern pine region has supplied one-third or more of all the lumber consumed in the United States. It is estimated that it may eventually produce more than one-fourth of all of the forest products to be grown in the United States, including a third of the nation's pulpwood. At present it supplies practically all of the turpentine and rosin.

The field work of the station is carried on from branch stations at Starke, Fla.; Urania, La.; and Bogalusa, La. Tests on the effect of fire, and in methods of planting, thinning, and brush disposal are carried out at Urania, in cooperation with the Urania Lumber Co.

Planting and cutting methods are studied at Bogalusa, in cooperation with the Great Southern Lumber Co. Across in Mississippi, at McNeill, the Bureau of Animal Industry and the Bureau of Plant Industry are working with the Forest Service to see whether it is practical to grow cattle and trees on the same land. The problem of turpentine small timber is being handled at Starke, Fla., while some work is being done at the State farm, nearby. National forest land in Arkansas and Florida also serves as a location for carrying on forest research.

The southern station, in cooperation with the State foresters, has been studying the rate of growth of second-growth pine stands all through the South from Virginia to Texas. This study is now almost completed, and will be one of the most ambitious ever undertaken by the foresters of the United States, covering as it does a huge region and four different kinds of pine. Another study of a preliminary nature, now nearing completion, is of the rate of growth of second-growth tupelo.

Probably 10,000,000 acres of cut-over pine land in the Southern States are in need of artificial reforestation if they are to grow another timber crop within several generations. Attention is being given at present to perfecting methods of raising the tree seedlings in a nursery bed and transplanting them.

The Southern Forest Experiment Station has been in existence so few years that most of the work above described is now only well established. It will take some time in nearly all of these experiments before any final achievements can be recorded. Preliminary results are, however, to be regarded as at least a step toward the ultimate goal of keeping the southern pine on the map.

NYUSDA CLUB MEETING

The regular monthly meeting of the Nyusda Club was held at the Pig and Whistle Inn, with luncheon, on March 25. The feature of the meeting was a talk by Dr. W. W. Lawson, assistant chief inspector of the Bureau of Animal Industry in New York City, who told of the recent work by that bureau in controlling the epidemic of European fowl pest. Dr. T. J. Kean, inspector in charge of the Bureau of Animal Industry, of Jersey City, N. J., discussed the problems encountered at that point. Dr. H. B. Shaw, chairman of the Committee on Information, stated that he had made satisfactory arrangements for the continuation of the radio talks by members of the department, outlining the department's activities.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

U. S. GRAPEFRUIT IN DEMAND ABROAD

There has been a remarkable growth this past winter in the popularity of American grapefruit in England and Scotland, reports Edwin Smith, foreign representative of the department. Although London is the center of grapefruit distribution in Europe, direct shipments have been made also to Glasgow and Liverpool.

KENTUCKY LEADS IN PUREBRED SIRES

A report just issued by the department on the progress of the "Better Sires-Better Stock" campaign for the improvement of domestic animals shows Kentucky to be in first place. A total of 3,118 livestock owners in the blue-grass State have signed declarations, filed with the department, to the effect that they are using purebred sires exclusively for all classes of livestock raised. Ohio, which at the beginning of the year held the premier place among States in this respect, is second, with 2,970 participants. Virginia is third, with 2,281 purebred-sire farms.

ARGENTINA TO EXPORT LESS CORN

Argentina will have less corn to export this year. In the first official forecast of the crop received by the department from the International Institute of Agriculture at Rome the crop is forecast at 187,155,000 bushels, as compared with 276,756,000 bushels produced last year.

SMALL CANADIAN STOCKS OF WHEAT

Total wheat stocks in Canada, as of March 31, were about 80,000,000 bushels less than on the same date last year, according to a telegram received by the department from the Dominion bureau of statistics. Last year's stocks, however, were the highest on record, and the stocks reported for March 31, 1925, are only slightly lower than on the same date of 1923, while they are somewhat above those of 1922.

FEWER CATTLE REPORTED ON FEED

The number of cattle on feed for market April 1 in the Corn Belt States was 88 per cent of the number on feed at the same date last year, according to

the estimate of the department. The decrease from last year is about the same for the two groups of States east and west of the Mississippi.

SAFEGUARDS FOR FEDERAL WAREHOUSES

New safeguards have been introduced into the operation of warehouses licensed under the Federal warehouse act by an arrangement requiring all licensed cotton warehousemen to have their receipts printed on a specially prepared paper bearing a special design. Receipt forms are obtainable only through a printer who has entered into a contract and filed a bond with the Department of Agriculture, under which he is obligated not to print licensed warehouse receipts except on approved orders submitted by warehousemen through department representatives. The new standardized receipt forms give the department a check on all receipts issued by federally licensed warehouses, and assist it in enforcing the requirements of the warehouse act.

INDIAN WHEAT CROP SHORT

The Indian Punjab wheat crop is forecast at 108,000,000 bushels, against 150,000,000 bushels produced last year, a reduction of about 42,000,000 bushels, or nearly 30 per cent, according to a cablegram received by the department from the International Institute of Agriculture at Rome. The Punjab is the most important wheat-producing Province, accounting in normal years for approximately one-third of the total Indian wheat crop.

SECRETARY STUDYING BUILDING PROGRAM

(Continued from page 1)

ment, having in mind the possibility of definite action with respect to a building program at the next session of Congress, has called upon this department to consider various detailed plans which have been suggested to relieve the housing situation in the Department of Agriculture.

It is expected that the \$50,000,000 building bill for the District which was introduced in the last Congress will be revived at the next session, or a similar one proposed. If so, the Department of Agriculture will be one of the first for which provision is made. Senator Smoot, reporting to Congress as chairman of the Public Buildings Commission, is quoted as having said that the Department of

Agriculture is the worst housed institution in the city.

Present Condition Wastes Time and Money

Owing to the fact that the bureaus and offices of the department are spread over the city in 46 buildings, some of which are not even fireproof, much valuable time is lost by officials in one bureau who must consult those in another. A large number of messengers and trucks have to be maintained for the transportation of messages, materials, and persons. A large force of watchmen for all these buildings must also be maintained. In addition, 25 of the 46 buildings occupied are rented by the Government at an annual cost of \$183,500.

Referring to the three schemes proposed in his letter to Secretary Jardine, Secretary Mellon said, with regard to the first:

"The floor space thus obtained is not sufficient for the requirements of the department and the unit rate would be excessive. Furthermore, the probabilities are that condemnation proceedings would have to be resorted to * * * which might delay the project for a considerable period; also, a considerable number of buildings on these blocks are rented by the department, and it might be impracticable to find other quarters for the activities housed therein."

Secretary Mellon spoke more favorably of the second scheme, but stated that in the block which the department proposed to purchase certain buildings are now occupied by the department with a total of 347 employees. Quarters for these would have to be found during the construction period.

With regard to the third scheme relative to the removal of the bureaus to a tract of land on the outskirts of the city and maintaining the administration building in its present location in the Mall, Secretary Mellon said:

"Considering the present down-town traffic congestion and an increase in this congestion by the proposed buildings for the Departments of Justice, of Commerce, and of Labor, the question of locating some of the activities of the Department of Agriculture on a tract of land some distance from the center of the city deserves consideration. Of course, the administration building of the department should be maintained in its present location, but it may be found that many of the bureaus comprising that department might function equally as well some distance from the city, like the Bureau of Standards * * *. It is not probable that any construction work could be carried out during the first year on the site intended to be purchased some distance from the center of the city."



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

MEMORANDUM NO. 531.—Appointment of Committee on Housing Program

APRIL 15, 1925.—An important matter which should receive attention is the question of proper housing of the various bureaus and offices of the department. I am fully aware of the present unsatisfactory situation in this respect, and expect to do everything in my power to bring about an improvement. The Treasury Department, having in mind the possibility of definite action with respect to a building program at the next session of Congress, has called upon this department to consider various detailed plans which have been suggested to relieve the housing situation in the Department of Agriculture. In order that these plans and other possible solutions to our problem here may receive full and careful consideration, I am designating a committee consisting of the Assistant Secretary, R. W. Dunlap, E. A. Sherman, of the Forest Service; Dr. K. F. Kellerman, of the Bureau of Plant Industry; C. W. Kitchen, of the Bureau of Agricultural Economics; M. C. Betts, of the Bureau of Public Roads; Harry Goding, of the Bureau of Animal Industry; and R. M. Reese, of the Office of Personnel and Business Administration, to consider this matter and to recommend a program which will appear to be the best possible solution, all things considered. I am asking the Assistant Secretary to act as chairman and Mr. Reese to act as secretary of the committee.

The committee will meet at an early date to consider the proposals transmitted by the Treasury Department, and will be glad to receive the suggestions of chiefs of bureaus and other members of the department on the whole subject of the future housing of the department.

J. R. WINSTON RESIGNS

J. R. Winston, associate pathologist in the Office of Fruit Disease Investigations, Bureau of Plant Industry, has resigned effective March 26, 1925, to accept a position as pathologist with the Peninsular Chemical Co., Orlando, Fla., manufacturers of insecticides and fungi-

cides. Mr. Winston has been engaged in the study of citrus diseases and was in charge of the United States citrus disease field laboratory at Orlando, Fla., since 1916, shortly after he entered the department. He started his scientific work as an investigator of deciduous orchard diseases. Before entering the department he was on the staff of the Oregon Experiment Station in charge of a field station for orchard diseases at Hood River, Oreg.

In the nine years since he was appointed for citrus-disease work by the Department of Agriculture he has made many discoveries and has published a number of bulletins and papers on citrus diseases and their treatment. He has become one of the outstanding citrus pathologists of this country. The department greatly regrets the loss of Mr. Winston in the pursuit of the citrus-disease project and also regrets that this is another instance where an outside commercial concern was able to take a good man away from the department. Mr. Winston had gained the confidence generally of the Florida citrus growers, and many of them have expressed regret at his leaving the public service.

CINCINNATI U. S. D. A. CLUB

The March meeting of the Cincinnati U. S. D. A. Club was held in the office of the Weather Bureau on March 31 at 3.15 p. m. The club was glad to welcome as a new member J. G. Scott, who replaces Mr. Wolfkuhl in charge of the Cincinnati office of fruits and vegetables news service. The club was also glad to have present Mr. Green, who is temporarily in charge of fruits and vegetables inspection, relieving A. H. Polster, who is ill. Mr. Devereaux was unanimously elected president for the coming year, after Doctor Jelen, who had served several years, had declined reelection. Mr. Ingles was reelected as secretary. The members then held a short informal talk on department matters in which their projects were interested.

Assistant Secretary of Agriculture Dunlap opened the American Forestry Week campaign over the radio on Thursday, April 16. The talk was broadcast from WRC, Washington, and was Mr. Dunlap's first address over the radio. On April 27 Secretary Jardine also spoke from Washington on the same subject, and several stations were hooked up to broadcast his talk simultaneously. In connection with this campaign the Forest Service is planning from 60 to 70 radio talks to be broadcast from large cities all over the country.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is it true that billiard balls can be made from milk?

Answer. By treating casein, the principal protein of milk, with formaldehyde, a hard substance is formed which can be cut or turned in the same way as ivory, celluloid, hard rubber, and Bakelite. This product, which may be beautifully colored, is usually made in sheets or rods. From these various articles such as combs, knife handles, chessmen, billiard balls, etc., are made.

Question. For the purposes contemplated in "the retirement act" (pensions for civil employees), does service in the Army or Navy count as time spent in the Government service?

Answer. Paragraph 1 of section 3 of the retirement act provides that in computing the length of service there shall be included periods of service at different times and services in one or more departments, branches, or independent offices of the Government, and shall also include service performed under authority of the United States beyond seas, and honorable service in the Army, Navy, Marine Corps, or Coast Guard of the United States: *Provided*, That in the case of an employee who is eligible for and elects to receive a pension under any law, or compensation under the war risk insurance act (now known as Veterans Bureau), the period of his or her military or naval service upon which such pension or compensation is based shall not be included. In other words, a person who has had honorable service in the Army, Navy, Marine Corps, or Coast Guard of the United States can include such service in computing the total period of Government employment for the purposes of the retirement act so long as they are not receiving a pension or compensation based on such military or naval service.

Question. What is meant by the term "neat cattle" or "neat steak"?

Answer. The term "neat cattle" refers to animals of the genus *Bos*, or bovines. "Neat" is derived from "neotan," meaning "use." In the early history of the race, as will be observed by reference to Old Testament records, there were "cattle of the flocks" and "cattle of the herds." The former were small ruminants, such as sheep and goats, while the latter were bovine animals, known to us as "cattle." These bovine animals were the ones most generally used, both as beasts of burden and for meat and milk, which probably is the reason they were called "neat cattle." Section 6 of the act of Congress approved August 30, 1890, the law upon which our livestock import regulations are largely based, refers specifically to "neat cattle." The law and these regulations were drafted to cover the importation of livestock from foreign countries. In some of these countries the term "cattle" is still applied to various kinds of farm animals other than those of the genus *Bos*. It may be presumed that when this law was drafted that fact was taken into consideration in order that there might be no confusion in the enforcement of the regulations. For purposes of Federal meat inspection the terms "neat cattle" and "cattle" are held to be synonymous. The term "neat steak" is not recognized and has not been defined.

CONFERENCE HELD ON WAREHOUSE PROBLEMS

Secretary Jardine Lays Emphasis Upon Benefits Derived From Ad- ministration of Warehouse Act

That those persons engaged in the administration of the United States warehouse act are carrying on an important piece of work in making more orderly marketing a reality, thereby giving the farmers an opportunity to distribute their products more evenly and to finance themselves to better advantage, was brought out by Secretary Jardine in a talk given to the field staff engaged in that work, meeting at Washington recently for a week's conference.

The conference was called to discuss problems arising in connection with the administration of the warehouse act and to develop plans for more uniformity in procedure. In the course of the week the conference was addressed by Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics; Lloyd S. Tenny, assistant chief; W. G. Campbell, director of Regulatory Work; Gov. R. A. Cooper, chairman of the Farm Loan Board; Chester Morrill, formerly assistant to the Secretary and now connected with the War Finance Corporation; Charles J. Brand, former chief of the Bureau of Markets; George R. James, member of the Federal Reserve Board, and various administrative officials of the Bureau of Agricultural Economics.

Secretary Speaks at Dinner

On Tuesday night, April 14, the entire force enjoyed a Potomac shad dinner at the Hamilton Hotel, H. S. Yohe, in charge of administration of the warehouse act, acting as host. Guests of honor at the dinner were Secretary Jardine; Assistant Secretary Dunlap; Edmund Platt, vice chairman of the Federal Reserve Board; M. L. Corey, formerly head of the Intermediate Credit Banks and member of the Farm Loan Board; Charles J. Brand; Chester Morrill; Dr. H. C. Taylor, and Lloyd S. Tenny. The Secretary, Mr. Platt, and Mr. Corey gave talks at the dinner. E. J. Murphy, of the Dallas office, and Robert Waldie, of the Wichita office, made short talks on behalf of the field staff.

In addressing the men the Secretary said in part:

"I take particular pleasure in greeting you men because I like to come in contact whenever possible with those responsible for our good work in the field,

and because I recognize that you are carrying on a very important piece of work in actually making more orderly marketing a reality.

Act Prevents "Dumping"

"One of the greatest problems which has ever faced American agriculture has resulted from dumping large volumes of farm products on the market during the first few months after harvest. Such a practice has resulted in gluts and periods of low prices. We have done a lot of talking about orderly marketing in years past, but it has only been of more recent date that real progress has been made. We recognize that a flow of farm products to market in keeping with consumptive demand was essential, but many factors presented themselves to make this difficult. We had no way of advancing to farmers a proportion of the price for their products which might be stored and kept off the market.

"The United States warehouse act, particularly as it has been amended, gives farmers of this country a handy vehicle to use in bringing about a more even distribution of their products. The big purpose of the act is to develop a form of warehouse receipt which would be acceptable generally to bankers as security on loans for products in storage. It is in the administration of this important act that you men are concerned.

"In the passage of the act Congress recognized that the warehouse receipt was a most important piece of paper in securing the needed credit to permit the orderly marketing of farm products. But it makes no difference how good the law is if there is not sound progressive administration back of it. The fact that this receipt is in such good standing with bankers to-day is a credit to your efforts.

* * *

Supervision Essential to Act

"The responsibility of you men, as I see it, does not end when a warehouseman has been licensed. Supervision after this time is essential. This supervision is accomplished through making examinations and checks of the warehouseman's records, stocks on hand, and financial standing at least four times a year. These inspections have been frequently referred to as the backbone of the warehouse act. They are just as important as examinations made by the national-bank examiners under the national banking act. I can not overemphasize the matter of these subsequent inspections if the integrity of your work is to be maintained at its present high point. We get an idea of the impor-

tance of these inspections from the knowledge that in one of your cotton districts last year approximately 1,650,700 bales of cotton were handled with a conservative estimated value of \$206,337,500.

"I am highly gratified at progress being made in your work. I find that of the 13 state-wide cooperative cotton-marketing associations, 11 of them are using the Federal warehouse receipt exclusively as a basis for their financing. All of the big tobacco growers' associations are using it exclusively, with one exception. The Southwest Wheat Growers, the Kansas Wheat Growers, the Indiana Farm Bureau Wheat Growers' Cooperative Association, and the Pacific Coast Wool Growers are using it exclusively, to say nothing of the thousands of farmers who are depending upon the protection of their interests through this act. I have a personal interest in your activities for the reason that I am a member of the Kansas Wheat Growers' Association.

"Banks are depositories of money. Warehouses under the Federal law are depositories of agricultural products. As far as responsibility in supervision is concerned there is little difference between them.

"Orderly marketing is one of the keystones in the permanent prosperity of our agriculture. You men hold one of the keys to the solution of the difficult marketing problem. In conclusion, I charge you, on behalf of the American farmer, to maintain the integrity of the warehouse receipt and congratulate you on the very splendid work you have been doing and the high character of your service."

In commenting on the warehouse receipt issued under the United States warehouse act, Mr. Platt expressed regret that all receipts offered to banks as security for agricultural products were not receipts issued under the Federal law.

Mr. Corey, in commenting on the accomplishments under the warehouse act and the administration of this law, designated this piece of department activity as "the outstanding business accomplishment in the Government service during the past two years."

Tests of the shrinkage and moisture content of raw wool are to be made in a special laboratory of the Bureau of Agricultural Economics. Samples of wool fleeces are being collected from all parts of the country, to be used in the tests in the hope ultimately of developing accurate methods of estimating shrinkage and moisture content due to climatic and other factors.

WITH EXTENSION FORCES

WORK ON CHILD HEALTH IMPROVEMENT

To develop an undernourished child into a tri-state health champion is an achievement, and Bradley County, Ark., is justly proud of having accomplished this in its 1924 health contests. But its greatest satisfaction from the contests is in the improved health of 130 boys' and girls' club members and the new interest in better food habits in their homes.

Plans for the contest were made by the home demonstration agent, Mrs. Ida A. Fenton, and the county nurse, together, at the beginning of the year's work when it was decided that the home demonstration agent would carry on the demonstration features and the nurse would have charge of weighing, measuring, and examining the club members for scoring.

No new organizations were needed, as the contest was made a part of the year's work in the clubs already existing in each community. Soon after the first of the year, the home demonstration agent presented the plan of the contest to each club and gave each member a food habits score card with directions for its use. The county nurse attended these initial meetings when possible, or made a later visit to the community for the scoring. The agricultural extension agent, C. S. Johnson, gave considerable time to the enterprise. Competing in health appealed to the club members, and it was a subject of conversation at almost every club session.

After the first meeting, the home demonstration agent met with the clubs once each month to give demonstrations in preparation of foods recommended, exercises for better posture, and to talk over with the members the progress being made in keeping the food habits score card.

In June the county nurse visited each club to score the members and select the highest scoring member in each community to compete in the county contest. The county contest was held in July, at which physicians examined and scored the community representatives. The winner of the county contest, a girl who had first scored as undernourished, successfully represented Bradley County in a district health contest and then won distinction for her State by carrying off the laurels in a tri-State competition at Memphis, Tenn.

In checking over the results of the contest Mrs. Fenton puts down in her report, first, that the food habits score card has helped the families of the con-

testants in planning for home production of an adequate supply of nourishing food for the entire family. Then it has given a number of the smaller brothers and sisters an ideal in health and interested them in following good health practices to attain the desired physical development. It has stimulated the women of three communities to establish hot lunches in their schools. And it has given the extension and health agencies of the county a knowledge of nutritive conditions in rural homes which will serve as a basis for future plans of work.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arizona.—Guy Hobgood of Wyoming has been appointed county agent in Yavapai County to succeed H. A. Stewart, who has been transferred to Maricopa County.

Georgia.—F. E. Mitchell has been appointed an additional specialist in poultry on the State extension staff and Kenneth Treanor, specialist in farm economics. Recent county agent and home demonstration agent appointments are as follows: C. W. Collier, Warren County; C. W. Wheeler, Wilkes County; E. L. England, Grady County; R. E. Miller, Lowndes County; W. G. Johnston, Talbot County; H. E. Woodruff, Upson County; J. K. Luck, Crisp County; Reba Adams, Jackson County; Margaret McDonald, Grady County; and Mrs. M. R. Morrison, Dodge County.

Indiana.—May Masten has been appointed assistant in boys' and girls' club work, and Katherine McMahan will assist in home management extension work.

Tennessee.—Mrs. Kate M. Wells has resigned as poultry specialist in order to enter the commercial poultry business. Carrie Lovette has resigned as home demonstration agent in Sullivan County and C. F. Park, Jr., has been appointed county agent in Johnson County.

NEW LEGISLATION AND COURT DECISIONS

Amendment No. 12 to the constitution of the State of Arkansas, voted on last summer and recently declared passed by the supreme court of the State, requiring all counties to take up outstanding indebtedness and prohibiting counties from incurring further indebtedness, is expected to result in increased efficiency in handling the county financing of extension work. Heretofore the counties have

issued scrip in payment of all obligations, which scrip in most counties sold at less than par. In some cases scrip has sold as low as 35 and 50 cents. The finances of the county will be stabilized by the new amendment.

The agricultural extension law in South Dakota was amended by the legislature which adjourned on March 7. The amendments made to the law clarified it considerably and made some changes in it. The changes deal mainly with methods of securing county appropriation. They provided, first, that commissioners are empowered to appropriate; second, that the commissioners are required to appropriate when petitioned by 25 per cent of the voters as shown by the vote for governor at the last preceding general election and filed with them; third, that authority to vote on the question is given only when the mandatory feature of the law has been invoked; fourth, the time for filing a petition to bring the matter to a vote was increased from 30 to 60 days prior to the general election; and fifth, the number of petitioners required to bring the question to a vote was increased from 15 to 25 per cent of the voters. In actual operation there is not much change from the present law except that the people interested in county agent work now have a method, which they did not have before, by which they can require an appropriation. The law was finally passed by a vote of 32 to 11 in the senate and 82 to 17 in the house.

The legislature in New Mexico has appropriated \$10,000 more for extension work for the next biennium than was appropriated for the current biennium.

IMPORTANT EVENTS

The extension division of the University of Illinois, in cooperation with the Illinois Agricultural Association, held 12 shipping association schools over the State, at which representatives from 186 different livestock shipping associations were in attendance, including 95 managers and 125 directors. A total of 533 men from 65 different counties attended the schools, including 50 farm advisers. Cooperative livestock shipping associations in Illinois are making a healthy growth, and the past year handled more stock with less complaint than in any previous year.

Approximately 650 farmers in 43 counties in Illinois who kept accounts last year in the simple farm account book prepared at the college of agriculture and which were recently summarized will keep accounts again this year and receive the summaries as a basis for rating their own business.

BRIEF REVIEWS OF NEW BULLETINS

Varietal Susceptibility of Oats to Loose and Covered Smuts. By George M. Reed, curator of plant pathology, Brooklyn Botanic Garden, formerly pathologist in charge of cereal-smut investigations, and Marion A. Griffiths and Fred N. Briggs, assistant pathologists, office of cereal investigations, Bureau of Plant Industry. Pp. 40, pls. 3. April, 1925. (Department Bulletin 1275.) Price, 10 cents.

The importance of disease-resistant varieties in the prevention of losses caused by parasitic organisms has long been emphasized, and their discovery and utilization is a well-recognized method of plant-disease control. This bulletin contains the results of numerous experiments to determine the varietal susceptibility of oats to loose and covered smuts. The work was carried on by specialists of the department in cooperation with the agricultural experiment stations of Idaho, Iowa, Kansas, Missouri, and Washington and the Brooklyn Botanic Garden.

Production of Grape-Hyacinth Bulbs. By David Griffiths, horticulturist, office of horticultural investigations, Bureau of Plant Industry. Pp. 16, pls. 2, figs. 3. April, 1925. (Department Bulletin 1327.) Price, 5 cents.

In the opinion of department specialists the general dearth of bulbous items, together with the ease with which the grape-hyacinth can be cultivated, should increase the demand for these hyacinth flowers as soon as growers take them up on a productive basis. This bulletin has been prepared in the hope that it will assist in directing the attention of growers to this promising source of bulbous material and increase the supply of bulbs for the border, the garden, the flower market, edges of woodlands, and forcing benches.

Bibliography of the Marketing of Agricultural Products. Compiled by Emily L. Day, Katharine Jacobs, and Margaret T. Olcott, library, Bureau of Agricultural Economics, under the direction of Mary G. Lacy, librarian. Pp. 56. March, 1925. (Miscellaneous Circular No. 35.) Price, 10 cents.

This bibliography includes the more important references to publications in English on methods of marketing agricultural products and discussions of the principles upon which methods of marketing should be based. It should prove of value to both research investigators in marketing and to trade organizations. This is the bibliography which received honorable mention on the occasion of a recent bibliographical award and which has been so highly praised by some of the leading educators of the country.

ADDITIONAL PUBLICATIONS

Journal of Agricultural Research. Vol. 30, No. 1, January 1, 1925. Contents. A Study of Variability in the Burt Oat. (G-402.) By Franklin A. Coffman, John H. Parker, and Karl S. Quisenberry.—The Composite Life History of *Puccinia podophylli* Schw. (N. Y. (Cornell)-5.) By H. H. Whetzel, H. S. Jackson, and E. B. Mains.—Effect of Height of Chipping on Oleoresin Production. (E-19.) By Eloise Gerry.—The Effect of Bacterial Numbers on the Nodulation of Virginia Soy Beans. (N. J.-11.) By Alfred T. Perkins. Pp. 1-96, pls. 16, figs. 2. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly

and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semimonthly.

The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic, and 25 cents foreign price.

Monthly Weather Review. Vol. 53, No. 1. January, 1925. Pp. 1-47, charts 11, figs. 8.

Special Articles: The place of origin and recirculation of typhoons. By Coching Chu.—Pressure over the northeastern Pacific and the weather in the United States, December, 1924, and January, 1925. By A. J. Henry.—Hawaiian rainfall. By A. J. Henry.—Some outstanding aerological problems. By W. R. Gregg.—Average free-air winds at Lansing, Mich. By C. L. Ray.—Record of total solar radiation intensity and their relation to daylight intensity—a correction. By H. H. Kimball.—Notes on changes in some of the weather elements during the solar eclipse of January 24, 1925. By B. M. Varney.—Observations on the solar eclipse of January 24, 1925, at Washington, D. C. By H. H. Kimball.—Special aerological observations during the solar eclipse of January 24, 1925. By L. T. Samuels.—Meteorological conditions on Baker and Howland Islands. By W. G. Ramsay.—A 55-year record of rainfall in Bermuda. By W. H. Potter.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 215. March, 1925. Pp. 25-32. April, 1925. Price, 5 cents.

—Bureau of Chemistry. No. 191. Notices of Judgment 13001-13050. Pp. 23. April 25, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of April 13-18, 1925. Copies of these publications may be obtained from the stations issuing them.

Pruning bearing deciduous fruit trees. W. P. Tufts. (California Sta. Bul. 386, pp. 47, figs. 21. Apr. 1925.)

The relation of the asepticuous administration of living *Bacterium abortum* to the immunity and carrier problem of bovine infectious abortion. G. H. Hart and J. Traum. (California Sta. Tech. Paper 19, pp. 50. Apr. 1925.)

Fertilization of apple orchards in Maine. K. Sax. (Maine Sta. Bul. 322, pp. 8, pl. 1. Jan., 1925.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, jr. (Massachusetts Sta. Met. Bul. 435, pp. 4. Mar., 1925.)

Feeding the dairy herd. C. H. Eckles and O. G. Schaefer. (Minnesota Sta. Bul. 218, pp. 48, figs. 3. Dec., 1924.)

Observations on the effect of *B. Abortus* Bang on the weight of the spleen of the guinea pig. C. P. Fitch and R. E. Lubbehusen. (Minnesota Sta. Tech. Bul. 24, pp. 23, figs. 7. Aug., 1924.)

Report of West Central Experiment Station, Morris, Minnesota, 1923. F. E. Miller, pp. 49.

A study of the leaf-mining Diptera of North America. S. W. Frost. (New York Cornell Sta. Mem. 78, pp. 228, pls. 14. Aug., 1924.)

The gray bulb-rot of tulips caused by *Rhizoctonia tuliparum* (Kleb.) N. Comb. H. H. Whetzel and J. M. Arthur. (New York Cornell Sta. Mem. 89, pp. 18, pls. 8, figs. 6. Mar., 1925.)

Farm profits. C. T. Dowell. (Oklahoma Sta. Circ. 56, pp. 13.)

Scrub vs. purebred ram. A. E. Darlow. (Oklahoma Sta. Bul. 151, pp. 4, figs. 2.)

Spraying early apples for blotch control. J. A. McClintock and C. D. Sherbakoff. (Tennessee Sta. Bul. 132, pp. 8, figs. 2. Mar., 1925.)

Some results from agricultural stations over the State. W. L. Quayle. (Wyoming Sta. State Farms Bul. 4, pp. 14, figs. 3. Aug., 1923.)

The service of the State experiment farms. W. L. Quayle. (Wyoming Sta. State Farms Bul. 5, pp. 68, figs. 33. Jan., 1925.)

Articles in Current Publications
by Department Workers

Bisset, Peter (Plant Industry). Plant introduction. Parks and Recreation, vol. 8, pp. 316-319. March-April, 1925.

Bryan, M. K. (Plant Industry). Verticillium wilt of tomato. Phytopathology, vol. 15, pp. 187-188. March, 1925.

Fletcher, A. B. (Public Roads). Impressions of English highway practice. Florida Highways, vol. 2, pp. 6, 10, 20. April, 1925.

—Impressions of English highway practice. Municipal and County Engineering, vol. 68, pp. 117-122. March, 1925.

Galpin, C. J. (Agricultural Economics). The community church. Country Gentleman, April 4, 1925.

Goldbeck, A. T., and M. J. Bussard. (Public roads). Bearing area and supporting value of soil. Engineering and Contracting (Roads and Streets), vol. 65, pp. 680-685. April 1, 1925.

CIVIL-SERVICE ANNOUNCEMENT

Assistant scientific aid (grain milling), \$1,500. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,860 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close May 29, 1925.

INDIANAPOLIS UNITY CLUB MEETING

The regular meeting of the Indianapolis Unity Club was held at the Chamber of Commerce on Monday, April 13, 1925. President H. A. Rhoades presided. During luncheon the minutes received from the various clubs were passed among the members for perusal. After luncheon the minutes of the previous meeting were read and approved. Discussions of various matters were then taken up by the members and, in the round-table talk which followed, the merits of the proposed commission and city manager forms of government, and the present form of government were debated, the members, with one exception, expressing themselves in favor of a trial of the city manager form of government.

PRINCIPAL LIBRARY ACCESSIONS

HORTICULTURE

Pyie, Robert. How to grow roses. 16th ed. West Grove, Penna., Conard-Pyle, 1925.

GRAIN AND FEEDS

Grain dealers national association. The grain trade. A brief presented to the president's Agricultural commission on January 22, 1925. Toledo, O., 1925.

Strowd, W. H. Commercial feeds; a hand book for the buyer and seller. Madison, Wis., Strowd company, 1925.

FORESTRY AND FOREST PRODUCTS

Blake, E. G. The seasoning and preservation of timber. London, Chapman & Hall, 1924.

Ugarte, Jesús. Economía forestal. Dasometría. Tratado de dendrometría. Madrid, C. Vallinas, 1923.

EDUCATION

Brim, O. G. Rural education. New York, Macmillan, 1924.

Merrill-Palmer school, Detroit. Outline for the teaching of home making. Detroit, 1922.

ENGINEERING

Bowen, J. T. Dairy engineering. New York, Wiley, 1925.

Johnson, J. B. Johnson's materials of construction. rewritten. 6th ed. New York, Wiley, 1925.

National conference on street and highway safety. 1st, Washington, D. C. 1924. Report. Washington, 1924.

BIOLOGY

Just, Günther. Praktische übungen zur vererbungslehre. Freiburg i. Br., T. Fisher, 1923.

Lotka, A. J. Elements of physical biology. Baltimore, Williams & Wilkins, 1925.

ZOOLOGY

Arnold, E. C. British waders. Cambridge, University press, 1924.

Berg, B. M. K. Mit den zugvögeln nach Afrika. 2. aufl. Berlin, D. Reimer, 1925.

Mexico. Secretaría de agricultura y fomento. Dirección de estudios biológicos. Catalogo alfabetico de nombres vulgares y científicos de plantas que existen en México. no. 1-6. Mexico, 1923.

Overseem, Caspar van, & Weese, J. Icones fungorum malayensium. hft. 1-8. Wien. Mykologisches museum in Weesp (Holland), 1923-24.

Schoenichen, W. Biologie der blütenpflanzen. Freiburg i. Br., T. Fisher, 1924.

Skene, Macgregor. The biology of flowering plants. London, Sidgwick & Jackson, 1924.

Tsien, S. J. Recherches sur l'histologie des plantes à panachées et sur le mécanisme cytologique de la panachure. Paris, Les presses universitaires de France, 1924.

Thèse—Nancy.

Whetzel, H. H., and others. Laboratory outbreaks in plant pathology. 2d ed. Philadelphia, Saunders, 1925.

BOTANY

Mexico. Secretaría de agricultura y fomento. Dirección de estudios biológicos. Catalogo alfabetico de nombres vulgares y científicos de plantas que existen en México. no. 1-6. Mexico, 1923.

Overseem, Caspar van, & Weese, J. Icones fungorum malayensium. hft. 1-8. Wien. Mykologisches museum in Weesp (Holland), 1923-24.

Schoenichen, W. Biologie der blütenpflanzen. Freiburg i. Br., T. Fisher, 1924.

Skene, Macgregor. The biology of flowering plants. London, Sidgwick & Jackson, 1924.

Tsien, S. J. Recherches sur l'histologie des plantes à panachées et sur le mécanisme cytologique de la panachure. Paris, Les presses universitaires de France, 1924.

Thèse—Nancy.

Whetzel, H. H., and others. Laboratory outbreaks in plant pathology. 2d ed. Philadelphia, Saunders, 1925.

ECONOMICS

Russel, R. R. Economic aspects of southern sectionalism, 1840-1861. Urbana, University of Illinois, 1923.

Tjong, H. T. De industrialisatie van China. 's-Gravenhage, Nijhoff, 1922. Proefschrift—Delft.

VOYAGES AND TRAVELS

Champlain, Samuel de. The voyages and explorations of Samuel de Champlain 1604-1616. N. Y., Allerton book co., 1922.

Harmon, D. W. A journal of voyages and travels in the interior of North America. New York, Allerton book co., 1922.

La Salle, R. C. The journeys of René Robert Cavelier, sieur de La Salle. New York, Allerton book co., 1922.

Lewis, Meriwether. History of the expedition under the command of Captains Lewis and Clarke. New York, Allerton book co., 1922.

Núñez Cabeza de Vaca, Alvaro. The journey of Alvar Núñez Cabeza de Vaca and his companions from Florida to the Pacific,

1528-1536. New York, Allerton book co., 1922.

BIOGRAPHY

Pearson, Karl. The life, letters, and labours of Francis Galton. v. 1-2. Cambridge University press, 1914-24.

PERIODICALS CURRENTLY RECEIVED

Český včelár (monthly) roč. 59, čís. 1- Jan. 15, 1925—Praze.

Economic geography (quarterly) v. 1, No. 1—Mar. 1925—Concord, N. H.

Moorman manufacturing company. Mineral mixture experiment station. Bulletin, No. 5—June 1924—Quincy, Ill.

Svenska vägföreningen. Handlingar (quarterly) årg. 6, no. 1—Stockholm, 1919.

Venezuela. Ministerio de relaciones exteriores. Boletín, año. 1, no. 1—Jan. 1925—Caracas.

COUNTY AGENTS AND THE SOIL SURVEY

The county agent can help the farmer to make practical use of the Soil Survey by expressing the information which the survey gives in farming terms, suggested C. F. Marbut, in charge soil survey investigations, Bureau of Soils, at a recent conference of department extension workers and others interested in the Office of Cooperative Extension Work.

To do this effectively, he continued, the county agent must be thoroughly familiar with the soil survey himself. As the soil survey is a technical organization, its results are expressed in technical language. The farmer, naturally, can not be expected to familiarize himself with that mode of expression, as he has a job of another type, while the county agent is presumed to have a working knowledge of both scientific and farming terminology and more or less of what might be termed interpretive ability.

The concrete product of soil survey work is found in the soil map and report, Doctor Marbut explained. From this the county agent may determine the individual characteristics of a soil which has been surveyed, such as the texture, structure, drainage, degree of weathering and oxidation, content of organic matter, approximate colloidal matter, toughness, plasticity, compactness, and approximate chemical constituents.

There are two opinions, Doctor Marbut stated, as to the kind of name which should be used in a soil-survey map to designate what we call a soil. One is that the name should not be descriptive in any sense; the other is that descriptive nomenclature should be used. The Soil Survey of the department has adopted the system of giving every soil surveyed a composite name embodying something of both suggestions—for example, "Baxter silt loam," of which "silt loam" describes obvious characteristics and "Baxter," a nondescriptive term, applies to the remainder of individual characteristics determined in the survey.

PHILUSDA CLUB MEETING

The regular monthly meeting of the Philusda Club was held in the offices of the Weather Bureau on March 25, preceded by the usual luncheon at Snellenburg's restaurant. The meeting was called to order by Chairman Bliss who, after the transaction of some routine business, introduced the speaker of the day, A. W. Durrell, deputy collector of customs, Philadelphia.

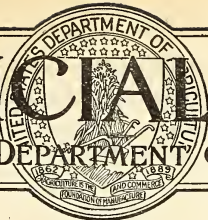
Mr. Durrell took for his subject "Customs," and aimed primarily to show that practically each of the various branches of the Department of Agriculture which had duties in Philadelphia was more or less intimately connected with some phase or another of the inspection of imports or the control of commerce. He brought out quite forcibly the fact that many of the duties now performed by branches of the department originally were all in the hands of the collector and that, because of the need for more adequate inspection of imports, it had been necessary to broaden this inspection and delegate the authority to other branches of the Government. He referred to the inspection of imported commodities by each of the following branches of the department: Food and drugs by the Bureau of Chemistry; plants, trees, fruits, and vegetables by the Federal Horticultural Board; live animals and meat products by the Bureau of Animal Industry; insecticides by the Insecticide and Fungicide Board. He stated that other departments were also involved in the inspection of commodities or persons, as, for instance, the inspection of emigrants and the inspection of vaccines, serums, etc., by the laboratory of the Public Health Service. The officials in charge of all this work act as deputy collectors of customs, although they do not bear that title, and the public ordinarily does not realize that they have any connection, directly or indirectly, with the collector of customs.

FOOT-AND-MOUTH QUARANTINE LIFTED

Galveston and Harris Counties, in Texas, have been declared free from foot-and-mouth infection, for which they have been under quarantine since September 27, 1924, and the quarantine has been lifted by an order from the department, issued April 15. Although no new infection has been discovered since October 27, one month after the outbreak, the territory under suspicion has been held in quarantine for the last five and a half months to give any dormant infection time to come to life and to guard against possible further spread of the disease.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MAY 6, 1925

No. 18

ANDES EXPLORED FOR NEW PLANTS

Latest Expedition Brings Back Large Number of Promising Plants for Trial Here

An agricultural exploration of the Ecuadorian highlands, undertaken by the United States Department of Agriculture in 1920-21, brought to light a large number of promising new fruits, root crops, forage, and ornamental plants. Many species secured at that time are now on trial in various parts of the United States and its dependencies.

Wilson Popenoe, agricultural explorer of the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, who conducted the exploration of 1920-21, was named by President Coolidge as one of the ten delegates from the United States to the Third Pan American Scientific Congress, which met at Lima, Peru, in December and January last. On his return journey Mr. Popenoe took advantage of the opportunity to revisit Ecuador, where he spent a month in assembling a collection of rare Andean seeds and plants, including several species which were obtained on his previous visit but which failed to survive shipment to the United States. Bringing these home with him personally, Mr. Popenoe was able to give them necessary attention on the journey, with the result that practically all of them reached Washington in good condition.

Plants are Held in Quarantine

To avoid the possibility of introducing injurious insects and plant diseases new to this country, such importations by the department are restricted to small lots which can be planted in quarantine and held under close observation until their freedom from dangerous pests is assured. This is necessary in addition to thorough technical inspection of the imported plants at the time of their arrival. When released from quarantine they are propa-

gated to a sufficient extent to permit their placing with experimenters and plant breeders in various parts of the country. Accordingly no stock of these Ecuadorian plants will be available for distribution for some time.

From the high Andes of northern Ecuador, 75 miles from the railway, Mr. Popenoe brought tubers of the little-known Chaucha potato, a variety esteemed in that region because the tubers do not require to be stored, like other potatoes, but can be replanted the day they are dug. From the Chota Valley, a hot, dry region near the frontier with Colombia, five new varieties of the avocado were secured to be tested in California and Florida alongside the five which were obtained from the same region in 1921. Some of these avocados belong to the Mexican race, but were introduced into Ecuador by Spanish monks two or three hundred years ago. It is hoped that they will prove valuable for their frost resistance combined with good size and quality of fruit.

The capulin cherry, a large-fruited form of the northern black cherry (*Prunus serotina*), developed through centuries of selection in the Andean region, was secured for trial in the southern and southwestern United States where other cherries can not successfully be grown. The fruits of the capulin are as large as Early Richmond cherries, dark purple in color, juicy, and of delicious flavor.

Like Raspberry—Big as Blackberry

A new form of the Andes berry, *Rubus glaucus*, was secured from a garden at Ibarra. This is a white-fruited variety, said to be of excellent quality. The typical Andes berry is wine-red in color, and the size of a large blackberry. It is a raspberrylike fruit of excellent quality, which experiments have shown to be suitable for cultivation in California. It is also being used by plant breeders to cross with northern raspberries, in the hope of developing new forms suitable for cultivation in the South.

(Continued on page 8)

NEW ASSISTANT CHIEF FOR ECONOMICS BUREAU

Nils A. Olsen Appointed by Secretary to Head Research Work of B. A. E.

The appointment of Nils A. Olsen as assistant chief of the Bureau of Agricultural Economics was announced April 30 by Secretary of Agriculture W. M. Jardine. The appointment is a promotion for Mr. Olsen, who has been connected with the department since 1919. He was first employed as an assistant agricultural economist to do research work in agricultural history. In 1922 he assisted in the administration of the seed-loan funds in the Northwest, and later was placed in complete charge of this work, with headquarters at Grand Forks, N. Dak.

In July, 1923, Mr. Olsen returned to Washington, where he was made executive secretary of the committee which prepared the report on the wheat situation submitted to President Coolidge in the fall of that year by Secretary Wallace. Following this he was placed in charge of the Division of Agricultural Finance in the Bureau of Agricultural Economics, conducting studies relating to farm credit, farm taxation, and farm insurance. His efficient work in the department won the admiration of the late Secretary Wallace, and Mr. Olsen was called upon frequently to assist the Secretary's office in connection with nationwide agricultural problems. He collaborated with Secretary Wallace in the preparation of his book, *Our Debt and Duty to the Farmer*, which only recently came from the press.

Work of Special Importance

Secretary Jardine quickly recognized the ability of Mr. Olsen, and promptly approved the recommendation of Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, for his promotion to the position now announced. His

duties will deal with the coordination of the work of the various units of the bureau doing research work, developing programs of investigation, and applying the results to the practical benefit of the Nation's agriculture.

The appointment of an assistant chief in charge of research is especially important at this time, in view of the plans being developed for cooperation with the State agricultural experiment stations for economic research with funds made available by the Purnell Act and the projected absence of the chief of the bureau during the next few weeks in attendance at conferences in Europe on the adoption of universal cotton standards.

Mr. Olsen was born on a farm at Herscher, Ill., August 31, 1886. He received the A. B. degree from Luther College, Iowa, in 1907; did graduate work in history and economics at Johns Hopkins University in 1907-8, and received the degree of A. M. from the University of Wisconsin in 1909. He was an instructor in history and economics at Muhlenburg College, Pennsylvania, 1909-10, following which he spent two years in graduate study at Harvard University. He received a traveling fellowship from this institution, from which he resigned in 1912 to assume the management of a Corn Belt farm, continuing in this work until his appointment to the department in 1919.

DEPARTMENT REPRESENTED AT CONGRESS

The fifth conference of officers of the negro land-grant colleges, called by the United States Commissioner of Education, met at Greensboro, N. C., April 16-17, to discuss methods of strengthening the educational programs of these institutions. Representatives of this department, of the United States Bureau of Education, Federal Board for Vocational Education, the North Carolina State Office of Public Instruction and of 16 negro land-grant colleges were present.

Assistant Secretary Dunlap spoke at an evening session on the accomplishments and opportunities in cooperative extension work with negro farm families. A. C. True, specialist in States relations, discussed the growth of the negro land-grant colleges in recent years and the increase in their responsibilities with the passage of the Smith-Lever and Smith-Hughes Acts, especially for developing among their students leaders in agricultural, mechanic arts, and home economics work. E. H. Shinn, in charge Office of Agricultural Instruction, and Doctor True assisted with the work of various committees in the conference.

American Institute of Cooperation to Give Short Summer Course

A four-weeks practical educational course in cooperation is to be given next summer by the recently organized American Institute of Cooperation. The first session of the institute will be held at Philadelphia, in cooperation with the University of Pennsylvania, from July 20 to August 15. The topics for study have been so planned that students who can not attend the full period may select such groups as best fit their convenience and needs. The first week will be devoted to a consideration of economic principles and legal structure of cooperation. Organization and membership problems will be studied the second week; operating methods and management problems the third week, and sales policies and price problems the fourth week.

The staff of the institute will include picked men from a wide range of co-operative organizations and from the leading educational institutions. Registration fees are \$15 for the four weeks, \$10 for two weeks, and \$5 for one week.

The founders believe that the institute will serve to clarify thought concerning the real goals of cooperative endeavor and to analyze the experience thus far accumulated; also that it will serve as a training school to develop leaders and workers who can effectively serve the cooperative movement in the future. During the session, practical experience and information will be pooled for mutual benefit and the advance of sound cooperation.

Sixteen great groups of general farm organizations, cooperative organizations, and associations of State marketing officials and educators, actively cooperating with the Department of Agriculture, make up the institute, which was incorporated last January under the laws of the District of Columbia as an educational enterprise. Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, is a trustee, and Lloyd B. Tenny, assistant chief of that bureau, is treasurer of the institute.

Further information regarding the course to be given in July may be obtained from the secretary of the institute, 1731 I Street NW., Washington, D. C.

BOLIVIA TO CELEBRATE INDEPENDENCE

In commemoration of the independence of Bolivia, there will be held in the city of La Paz, on August 6, next, an international industrial exposition. The Bolivian Government has extended an invitation to the United States to send

American products for representation of this country at the exposition. The invitation was received through the Secretary of State and transmitted to the Secretary of Agriculture.

Assistant Secretary Dunlap replied to the Secretary of State: "I regret that the Department of Agriculture will be unable to accept the invitation as there is no appropriation available that can be used for participation in exhibitions outside of the United States."

In connection with the centennial celebration and exposition, the Bolivian Government has decided to grant exemption from payment of duties and reduction in railway freight on all samples and exhibits that may be sent.

Weather Bureau Arranges Special Service for Amundsen

The Weather Bureau of the department has undertaken to cooperate with the Norwegian meteorologists who are arranging a special service of weather forecasts for the benefit of Captain Amundsen's projected airplane flight this spring from Spitsbergen to the Pole and return. The Norwegian forecasters are to issue their bulletins by radio from the ship of the expedition, stationed at Spitsbergen. The participation of the United States Weather Bureau in this undertaking will consist of sending out twice-daily cipher reports of meteorological observations at a selected list of stations in Alaska, Canada, and the United States; also Bermuda. Through the cooperation of the Navy Department these reports will be issued by radio from the Annapolis station (NSS) immediately after the broadcasting of the time signals at noon and 10 p. m., seventy-fifth meridian time. Each word of the meteorological report, in cipher, will be sent twice in order to increase the probability of effective transmission. In case the receiving apparatus of the expedition at Spitsbergen is not able to receive the Annapolis broadcast directly, it is expected that the promoters of the expedition will make arrangements to have the reports relayed from some European radio station.

The broadcasting of weather reports from Annapolis began April 15, and will continue until May 31, or until such time as the polar trip is completed.

William P. Amirtham Cooke, who has spent two years in this country taking graduate work in economics, and is now on his way back to Ceylon to take a position with the Department of Agriculture in the British Colonial Service, called recently at the department.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

FIFTH INTERNATIONAL ROAD CONGRESS

The fifth International Road Congress will meet at Milan, Italy, at the invitation of the Italian Government, from September 6 to 13, 1926. This announcement is made by M. LeGavrian, Secretary General of the Permanent International Association of Road Congresses, through the Bureau of Public Roads of the department. Arrangements are being made for a series of visits to modern roads built or under construction, notably the Autodrome of Monza, where a race for the grand prize will be run, and the new automobile highways which connect Milan with the Italian lakes. Visits are also scheduled to industrial plants and road construction projects which will be under way at the time. An international exposition open to manufacturers or producers of materials and implements used in the construction and maintenance of roads, as well as to manufacturers of vehicles and accessories, will be held in connection with the congress.

SEE DEARTH OF FARM WORK ANIMALS

A marked decrease in the number of horses and mules of working age that may amount to an acute shortage seems certain within five years, says the department. Unless more horse and mule colts are raised during each of the next five years than were raised in 1924, the number of horses on farms five years from now will be only about 66 per cent of present numbers, and of mules 74 per cent.

REPORT ON WORLD COTTON CROP

The world cotton crop harvested in the year beginning August 1, 1924, is now estimated by the department on the basis of the latest available data to be approximately 24,700,000 bales of 478 pounds, as compared with 19,590,000 bales for the year beginning August 1, 1923.

MEXICO PLANS BETTER-SIRES CAMPAIGN

The Republic of Mexico is planning to improve its livestock largely through educational methods similar to those used in the United States, according to Dr. S. O. Fladness, of the department, who is attached to the American consulate at Mexico City. Full-page an-

nouncements in several popular magazines published in Spanish have already heralded the inauguration of the work known in Mexico as the "Campaign against scrub-breeding animals and in favor of registered ones."

TO STUDY INSECT PEST DAMAGE

Announcement is made by the Northeastern Forest Experiment Station that its work will be expanded during the coming year to include investigations of insect pests and tree diseases in cooperation with the Bureau of Entomology and the Bureau of Plant Industry of the department. For one branch of these studies, the control of the white pine weevil, the sum of \$2,500 a year for the next two years has been made available from private sources.

PROPOSE WORLD FORESTRY CONGRESS

The International Institute of Agriculture and the Italian Government have entered into an agreement whereby a committee has been established for organizing a World's Forestry Congress to take place in Rome early in May, 1926. The headquarters of this committee are at the International Institute of Agriculture in Rome. Asher Hobson, delegate of the United States at the institute, is a member of the committee.

The congress will bring together experts in forestry and the timber and allied industries from all parts of the world, and it is hoped that truly valuable and profitable results will be reached through the exhaustive discussions which are expected to take place on all those problems of forestry which are of really international importance.

In connection with the International Fair at Milan at the same time there will be held an important exhibition of forest products and the machinery used in their conversion, which will enable visitors to examine the different products of the wood-manufacturing industries and the woodworking machines made in the various countries, and should serve to increase the flow of international trade in this branch of commercial activity.

It is expected that various excursions to the more typical forest lands in Italy, and possibly in other countries, will be arranged to follow the work of the congress.

REPORT ON HOME DEMONSTRATION WORK

Home demonstration work in Ohio, Illinois, Kansas, and Iowa is organized to meet the needs of the farm women in those sections, according to C. B. Smith,

chief, Office of Cooperative Extension Work, who has just returned from a brief study of the work in those States. The big need, he feels, is for more of it.

The outstanding feature of the work from an organization standpoint, Doctor Smith found, is the emphasis that is being placed upon the training of community project leaders and the carrying of the information received from the extension specialists by these to the other farm women of their communities. Training meetings held by the specialists for the project leaders were usually all-day meetings, the women arriving in the number of ten to thirty at some farm home about 10 o'clock in the morning, continuing work until noon, and after lunch resuming work and continuing until 4 o'clock.

Doctor Smith visited both the local leader training meetings and the groups of farm women assembled to receive the message from the local leaders, later to be put into practice in their own homes and passed on to their neighbors. Whether the subject under discussion and demonstration was nutrition, house furnishings, clothing, child training, health, or like matters, the interest of the farm women was marked and was sustained throughout the day. At many meetings time for recreation was provided, when some simple game, singing, and marching to music were entered into by the women with much good fellowship. Keen interest in girls' club work was expressed at practically every meeting.

No one can visit these groups of farm women and see them at work and play without realizing that a new heaven has come into country life. It is characterized by a deeper interest in home making, a spirit of mutual helpfulness, wider outlook, and increasing satisfaction with country life. The enlarged interest, embracing not only the home but extending to the community, the county, and the State; the increased social life that comes from gatherings of this sort, and the exchange of views are all having a far-reaching effect in developing an appreciation of farm life. The great need would seem to be the extension of the work to additional counties as rapidly as the work can be financed and competent home demonstration agents found.

The United States Steel Corporation has contributed \$25,000 to the campaign for the control of the boll weevil which is being carried on by the American Cotton Association. This makes a total of \$75,000 in annual contributions which the Steel Corporation has subscribed since the movement started in 1923.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Federal Business Associations

MEMORANDUM No 532.—April 29, 1925.—Attention is invited to previous memoranda issued by the department relative to the organization of Federal business associations in many of the principal cities throughout the country, and requesting all officers and employees of the Department of Agriculture to cooperate to the fullest extent in connection with these agencies and to avail themselves of the services which they are prepared to render. The spirit of cooperation displayed by the field personnel of the Department of Agriculture in these matters has been highly commendable.

Recently it has been pointed out that with recurrent changes in the field forces a clear understanding does not in every case exist as to the program of cooperation between the field forces of the several departments and these coordinating agencies, as laid down by the President as a general policy of the Government. It is pointed out that the chain of Federal business associations throughout the country is the branch of the coordinating service which most effectively carries the spirit of cooperation to the widely scattered army of Federal officials, that the success and usefulness of these associations depend, of course, upon the active interest of the individual members, and that it is important that such interest be shown by the officials of all local branches of the Government.

In order to meet the situation caused by changes of personnel in the field service and to insure the fullest possible support to the President's policy of economy and efficiency in the transaction of Government business, it is hereby established as a definite policy of the department that all executive officials and their principal subordinates connected with the field units of the department throughout the United States and its possessions will associate themselves with the local Federal business associations, wherever they have been organized, and that they will take an active interest in the work of these associations. It is also desirable that officials of the department take an active part in the formation of new Federal business associations in places indicated by the coordinator for the area in which they are located. These associations are active, constructive, executive auxiliaries, contributing power-

fully to efficient Federal business organization by cooperative effort between the various departments.

SAIL TO ATTEND COTTON CONFERENCE

W. G. Campbell, Director of Regulatory Work, Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, and H. C. Slade, of the Cotton Division, have been appointed to represent the department in the conference with representatives of the various European cotton exchanges at London, May 20. Doctor Taylor will sail on the steamship *Leviathan*, Saturday, May 2. Mr. Slade is booked to sail on the steamship *President Harding*, on May 6, and Mr. Campbell is making preparations to go on May 13.

This London meeting has been called to consider the proposals advanced by representatives of the Liverpool Cotton Association and the Manchester Federation of Cotton Spinners' Associations under which they would be willing to renew an agreement with the various European exchanges and this department providing for the use of Universal Cotton Standards in purchasing American cotton. These proposals were made at the conference held in Washington last March and previously reported in THE OFFICIAL RECORD.

Doctor Taylor will also represent the department at the Twelfth International Cotton Congress to be held at Vienna June 4-6.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the Office of Personnel and Business Administration, the following employees in the department were retired during the month of March, 1925.

Mrs. Mary A. E. Smith, clerk in the Office of Publications, was retired on account of age on February 20, 1925. She was born on February 21, 1855, was 70 years of age at date of retirement, and has served continuously in this department since July 1, 1905, a period of 19 years, 7 months, and 20 days.

Mr. Josephus Ryan, a forest ranger in the Forest Service, Estes Park, Colo., was retired on account of total disability effective November 12, 1924. He was born on July 7, 1871, was more than 52 years of age at date of retirement, and had served continuously in the department since July 1, 1907, a period of 17 years, 7 months, and 12 days.

Mrs. Anne A. Pryor, assistant scientific aid in the Washington office of the Forest Service, was retired on account of age on February 10, 1925. She was born on February 11, 1851, and was 74

years of age at date of retirement. Mrs. Pryor was continuously employed in the Forest Service of this department since May 26, 1902, a period of almost 22 years and 9 months.

Mr. William H. Lirely, senior lay inspector on the force of the Bureau of Animal Industry at Augusta, Ga., was retired on account of total disability on March 31, 1925. Mr. Lirely was first appointed as an observer in the Weather Bureau, where he served from March 13, 1897, to January 31, 1898. He was continuously employed by the Bureau of Animal Industry from September 24, 1906, up to the date of his retirement. His total departmental service amounted to 19 years, 4 months, and 27 days.

McLAUGHLIN SUCCEEDS FORTIER

Doctor Samuel Fortier on April 24 terminated his service as Associate Chief, Division of Agricultural Engineering, Bureau of Public Roads. He was succeeded by W. W. McLaughlin with the title of Acting Associate Chief, headquarters Berkeley, California.

Doctor Fortier has directed the irrigation work of the department since 1907. He has achieved world-wide recognition as an authority in his field. Under his direction there has been developed and made available to irrigation agriculturists a valuable record of research which must have a marked influence on the industry. Doctor Fortier will retain connection with the department in a consulting capacity.

Mr. McLaughlin has been connected with the department's irrigation work since 1904 and is the author of a number of department and State bulletins on various phases of irrigation.

SECRETARY ADDRESSES ST. LOUIS CLUB

About 75 employees, representing all bureaus of the department in St. Louis, Mo., and East St. Louis, Ill., had the pleasure of personally meeting Secretary Jardine during his recent attendance at the meeting of Land Grant Colleges held in St. Louis, Mo., April 20 to 22, 1925.

Dr. J. S. Jenison, president of the St. Louis U. S. D. A. Club, opened the meeting with an address, after which Doctor Jardine was formally introduced by E. R. Smith.

The Secretary made an inspiring address, which dealt principally with the attitude employees should take toward those concerns which are engaged in an industry over which the department has supervision.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is meant by "Homestead entry surveys"?

Answer. A homestead entry survey is a patent survey made of a homesteader's claim on a national forest. This survey is only made where the General Land Office has not extended its regular subdivisional survey, or where it is impossible to adjust the lines of a claim to the regular land lines. These surveys in no case exceed 160 acres in extent and are made by the Forest Service without cost to the claimant.

Question. How can good and poor nutrition be recognized in growing children?

Answer. A child that is well nourished has an erect, sturdy, well-developed body with straight legs, flat shoulder blades, full rounded chest, strong white teeth, and firm rosy flesh. The expression of his eyes and face denotes a keen happy mind, and all his movements show vigor and energy without undue nervousness. The body of the undernourished child exhibits just the opposite characteristics and his listless attitude toward life or his extreme nervousness and irritability show that he is carrying a heavy handicap. His body is likely to be stooped, not well padded with flesh, and the flesh itself pale and flabby. The chest is flat and narrow, while the shoulder blades protrude in "wings," and bowlegs and knock-knees show that his food has not furnished the right materials for proper bone formation. The teeth are often uneven and show evidences of decay, and the breath is unpleasant instead of sweet like that of the normal child. There are dark circles around the eyes, and the expression is often dull or wistful. Because of the low resistance of such a child he offers fertile ground for bacteria and oftentimes "catches" one disease after another. He is finicky about his food, and temper tantrums are not infrequent. His school work is likely to be erratic and below standard. Some or all of these signs of malnutrition are found in a large percentage of the preschool and school children of the United States to-day.

Question. Is the dasheen a potato? If not, how does it compare with the potato?

Answer. The dasheen is not a potato, nor does it belong to the same family. The reason it is classed with the potato in the popular mind is probably be-

cause, like the latter, it is a starchy root crop. The dasheen is similar in composition to the white potato, though it is firmer and contains about half as much again of protein and starch. Dasheens properly grown have, when baked or boiled, something of the dryness, mealiness, and flavor of the chestnut. They are prepared in general like potatoes, and are cooked in the same length of time or a little less. There are considerable areas in the South Atlantic and Gulf regions in which the dasheen can be grown more successfully than other root crops.

SECRETARY JARDINE RIDES A MORGAN

Secretary Jardine now rides a Morgan through the parks and along the bridge paths of the Capital. He has foregone the pinto, mustang, and cayuse of the sagebrush country for the blooded mount, "Glittering Glory." Whether this change from the western cow pony to an aristocrat of the horse family is by choice or merely because of expediency was not learned, but it is quite fitting that the Secretary of Agriculture should ride a horse acquired from the United States Morgan Horse Farm, Middlebury, Vt., where the famous breed of Morgan horses is being improved and increased.

The Morgan gelding is 7 years old and is a beautiful chestnut with a left foreleg white halfway to the knee and both hind legs white almost to the hocks. He was sired by the department-owned Morgan "Red Oak," a stallion then in service in the military horse-breeding project. His dam was a well-bred Morgan mare used by the late Doctor Norton, of Bristol, Vt.

It was at the request of the late Secretary Wallace that "Glittering Glory" was secured for his own use and shipped to Washington during the latter part of October, 1924. He was never ridden by Mr. Wallace, inasmuch as the late Secretary died shortly after the horse's arrival.

Before shipment to Washington "Glittering Glory" was shown, with other stock of the United States Morgan Horse Farm, at the Eastern States Exposition, Springfield, Mass., September 15-20, 1924, where he was a ribbon winner in both saddle and combination saddle and harness classes.

Shortly after Secretary Jardine assumed his official duties the gelding was placed at his service, and he has ridden him a number of times. "Glittering Glory" is a horse of pleasing saddle conformation, attractively marked, and schooled to the walk, trot, and canter. While possessing a very docile and companionable disposition, he seems proud

of his job and displays plenty of "pep" and a dashing appearance.

S. C. THOMPSON

Sidney C. Thompson, in charge of the Dairy Introduction Section in the Bureau of Dairying of the department, died at his home in Washington, D. C., of a heart attack Tuesday, April 28. His wife, who had been ill for some time, died three days before, and the shock of grief told severely on him. The body of Mrs. Thompson was disinterred, and both bodies were removed to Maine for burial.

Mr. Thompson was born at Winterport, Me., August 19, 1871. He was first appointed in the Bureau of Animal Industry, Dairy Division, in 1908, as assistant dairyman. In 1911 he was given charge of work in connection with dairy manufacturing, and was promoted to senior dairyman in 1913. He was placed in charge of the Dairy Manufacturing Section of the Dairy Division in 1914, having charge of the inspection of Navy butter, supervision of butter and creamery inspection work, investigations relative to factory activities, and management of the experimental creamery at Grove City, Pa.

He left the department for a year in 1919, but returned in 1920 to do investigational work at the Grove City creamery, of which he was manager up to September, 1920. Since that time he has been stationed at Washington in charge of investigations in dairy production, manufacture, and utilization.

Mr. Thompson was a faithful, efficient worker, and his genial personality, sense of justice, and general capabilities made him well liked by all who knew him. His associates had learned to place great dependence on his sound judgment and good sense.

On Monday, April 20, at the request of L. P. Emmerick, of Virginia, a conference of the cow-testing association specialists of Pennsylvania, Virginia, Maryland, and New Jersey was held at the Bureau of Dairying to discuss standardizing and correlating cow-testing association work in the various States. The methods of tabulating cow-testing association records were studied, and the methods necessary to locate outstanding dairy sires and extend the life and service of these good bulls were discussed.

The dairy specialists present were C. R. Gearhart, of Pennsylvania; J. A. Conover, of Maryland; E. J. Perry, of New Jersey; and L. P. Emmerick and George Carey, of Virginia.

WITH EXTENSION FORCES

FIRST GARDENS OF TAOS PUEBLO

Taos Pueblo, which has been the home of a hundred or more Indian families for at least 400 years, is one of the features of the working territory of W. E. Knapp, county agent of Taos County, N. Mex. Agriculture has for many generations been the Pueblo Indian's chief means of support and seems the vocation for which he is best adapted. Mr. Knapp's plans for work at the Pueblo have been made by conference with the Indian farmer and the principal of the Pueblo school and are being carried out by their cooperative efforts. Ultimately it is hoped that Taos Pueblo may be fully self-supporting and well fed from the products of its own land.

As a beginning on such a program it was decided to enlist the Indian children in phases of work in which it has been most difficult for the adults to cooperate. Gardening was planned for the first year, pig clubs for the second, poultry for the third, and dairy calf clubs for the fourth, with all types of work to be continued in conjunction with the new undertakings.

During the winter of 1923-24 both county agent and school principal talked frequently with the children about gardens and vegetables suitable for that region. It was noticed, after some weeks, that the older Indians were talking among themselves about the gardening idea and did not seem to regard it favorably.

On the advice of the priest, who had been at this post for many years, a night meeting was called at the school early in March to discuss any objections the Indians might wish to offer. Assistant Extension Director H. S. Moles of the agricultural college, the county agent, and the priest went out to the meeting and talked of the work. Several of the older Indians spoke, one saying that they had never done any gardening and he saw no reason for starting it. Further talk from the visitors, however, decided them to give the plan a trial.

From that time the work progressed smoothly. Every child in the school wanted a garden when planting time came and the number was reduced to 112 only by ruling out those who seemed too small. The Indian Service made possible the purchase of seeds and the State experiment station sent enough Valencia onion plants and early and late cabbage plants for each garden. Each child was given turnip, beet, radish, lettuce, bean, and rutabaga seed enough to complete a garden of about 200 square feet. In addition each older boy was

given some Golden Bantam sweet-corn seed and each girl two varieties of flower seeds.

The county agent personally supervised the planting of the gardens, the Indian farmer gave all the time he could spare to assisting the young gardeners, and the school principal spent his entire vacation in the work. In June, Assistant Director Moles made an inspection of the gardens and only three poor ones were found. Fifteen dollars contributed for the purpose furnished many small prizes which were awarded by the governor of the Pueblo at a special meeting.

Later in the fall a fair was held to which 76 children brought exhibits from their gardens. Small prizes were awarded for these and in addition there was a contest in essay writing on gardens in which 85 Indian boys and girls entered.

This officially ended the first year's work of Taos Pueblo's garden club. But the older people had become so much interested in the work of the children that a number have asked for help in the selection of seeds and cultivation of gardens for this season.

ST. JOSEPH CONTACT CLUB

The regular monthly luncheon of the St. Joseph Contact Club was held at the Transit House April 17. As this was the time for annual election of officers no program had been arranged. Dr. R. W. Culbert, inspector in charge of meat inspection at the South St. Joseph station, was called upon for a talk, and responded with a few remarks concerning United States Department of Agriculture club work. The following officers were elected for the coming year: President, Dr. R. W. Culbert, Livestock Exchange Annex; vice president, Dr. L. S. Rohrer, Anchor Serum Co., Livestock Exchange Building; secretary-treasurer, Dr. J. A. Zimmerman, 116 Massachusetts Avenue.

CHICAGO U. S. D. A. CLUB

The April meeting of the Chicago U. S. D. A. Club was held on April 15 at the Great Northern Hotel at 12.30 p. m. Dr. Elmer L. Williams, of the Better Government Association, was the guest and speaker who addressed the members on "Better citizenship." The question was brought up of appointing a committee to work with the Federal Business Association and Employees Union with regard to cooperating with these associations toward securing a joint meeting, at which time senators and representatives of this district will be in attendance.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

SUGAR-CANE IRRIGATION STUDIED

The Division of Agricultural Engineering of the Bureau of Public Roads has for the past three seasons been conducting an experiment in sugar-cane irrigation with results which indicate that such practice may be well worth while. The experiment has been conducted near Franklin, La., and is the result of a general interest among sugar-cane growers in the advisability of irrigation.

Periodically the growers have sustained heavy losses due to drought, but they have not been convinced that the cost of maintaining irrigation facilities in years of sufficient rainfall would be offset by the returns in dry years.

The experiment was started in 1922, and both that year and the year 1923 were abnormally wet and little was accomplished beyond demonstrating that the matter of drainage is fully as important as irrigation. In 1924, however, irrigation had its inning, resulting in an increased yield of 5 tons per acre on 500 acres of land, or considerably more than enough to pay the cost of equipment used and its maintenance for the three years. The following figures indicate the comparative cane yields on irrigated areas and on adjoining check plots which were not irrigated:

	Irrigated cane	Unirrigated cane	Increase due to irrigation
Plant cane in medium heavy black land.....	Tons per acre 20.0	Tons per acre 10.7	Tons per acre 9.3
Plant cane in light land.....	16.6	13.5	3.1
Stubble cane in medium land ¹	11.0	5.9	5.1
Average.....	14.6	9.0	5.6

¹ In computing the average figures the experiment with stubble cane has been given a weight of 2 on account of the conditions surrounding the experiment.

The experience thus indicated that lack of drainage was probably the principal cause of failure of previous attempts at irrigation. The irrigation system must in no way interfere with proper drainage. The irrigator must at all times be prepared to cope with unexpected and heavy rainfall. These previous attempts have been almost uniformly successful up to the point where heavy rains without proper drainage resulted in waterlogging the land.

The experiment will be continued through the 1925 season.

BRIEF REVIEWS OF NEW BULLETINS

Saving Livestock from Starvation on Southwestern Ranges. By C. L. Forsling, director, Great Basin Experiment Station, Forest Service. Pp. 22, figs. 15. December, 1924. (Farmers' Bulletin 1428.) Price, 5 cents.

This bulletin recommends practices for the prevention of the severe losses in cattle and sheep on southwestern ranges resulting from starvation during forage shortages caused by the ever-recurring droughts. The region referred to includes western Texas, New Mexico, Arizona, parts of southern California and southern Nevada, and constitutes one of the important cattle and sheep producing sections of the United States. The bulletin deals fully with circumstances as they exist and the subject matter is based on study and experience.

Rural Planning—The Village. By Wayne C. Nason, assistant agricultural economist, Bureau of Agricultural Economics. Pp. 46, figs. 49. March, 1925. (Farmers' Bulletin 1441.) Price, 10 cents.

This bulletin is an attempt to answer various questions on the planning of villages by giving instances of what has been done in numerous villages in many States, as well as to indicate the importance of such planning and the facility with which valuable results may be attained. It will not undertake to prepare plans for villages or to discuss technical details, but rather to show by actual accomplishment what may be done by the average country village.

Painting on the Farm. By H. P. Holman, chemist, Bureau of Chemistry. Pp. 33. April, 1925. (Farmers' Bulletin 1452.)

This bulletin describes various kinds of paint and tells how to select the right kind for any purpose. It gives directions for mixing paint on the job, for preparing surfaces, and for applying the paint. Full directions for making and applying several kinds of whitewash are included. This bulletin supersedes Farmers' Bulletin 474, Use of Paint on the Farm.

Experiments with Small Grains on the Arlington Experiment Station Farm. By John W. Taylor, associate agronomist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 28, pls. 4, figs. 10. March, 1925. (Department Bulletin 1309.) Price, 10 cents.

Experiments with small grains have been conducted by the department at Arlington Farm, near Washington, D. C., over a period of years beginning in 1907. In the earlier years the experiments consisted mainly of studies of varietal adaptation, rates of seedling, and the improvements of the principal fall-sown cereals by selection and breeding. More recently the scope of the plant experiments has been broadened. They now include a combined experiment on rate of seedling and seedbed preparation and tests of several seed treatments for increasing the yield and controlling diseases, particularly the cereal smuts. This bulletin reports the experimental results obtained during the 14-year period, 1910-1923.

Let's Know Some Trees. Brief Descriptions of the Principal California Trees. By Charles H. Shinn, forest examiner, Forest Service. Pp. 16, figs. 13. January, 1925. (Miscellaneous Circular No. 31.) Price, 5 cents.

This publication presents facts about the various species of trees native to California in a way that is most interesting to all classes of readers. Written in a popular vein, the circular describes very clearly the differences between the various species of trees that are

found in the Golden State and makes identification easy. The author was one of the true pioneers in forestry and was known as "Ranger Shinn" to many thousands of Americans. Mr. Shinn finished this circular shortly before his death a few months ago.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of April 20-25, 1925. Copies of these publications may be obtained from the stations issuing them.

- Use and waste of irrigation water. G. E. P. Smith. (Arizona Sta. Bul. 101, pp. 265-293, figs. 11. March, 1925.)
- Thirty-seventh annual report Georgia Experiment Station for the year 1924. H. P. Stuckey. Pp. 59-89, figs. 11.
- A bibliography of researches bearing on the composition and nutritive value of corn and corn products. M. H. Keith. (Illinois Sta. Bul. 257, pp. 151, February, 1925.)
- Cattle feeding in relation to farm management. H. C. M. Case and K. H. Myers. (Illinois Sta. Bul. 261, pp. 213-243, figs. 8. March, 1925.)
- Wheat rosette and its control. H. H. McKinney, R. W. Webb, and G. H. Dungan. (Illinois Sta. Bul. 264, pp. 273-296, pl. 1, figs. 8. April, 1925.)
- Raising chicks at a profit. J. Vandervort. (Illinois Sta. Circ. 294, pp. 15, figs. 6. April, 1925.)
- White snakeroot poisoning. R. Graham and I. B. Boughton. (Illinois Sta. Circ. 295, pp. 7, figs. 4. May, 1925.)
- Soybean oilmeal and ground soybeans as protein supplements in the dairy ration. L. H. Fairchild and J. W. Wilbur. (Indiana Sta. Bul. 289, pp. 20, fig. 1. December, 1924.)
- Report of Northwest Experiment Station, Crookston [Minnesota], 1925. C. G. Selvig et al. Pp. 113, figs. 1.
- Further studies on the effect of environment on potato degeneration diseases. R. W. Goss and G. L. Peltier. (Nebraska Sta. Research Bul. 29, pp. 32, pls. 7. January, 1925.)
- An inquiry into the cause of the increase of tuberculosis in swine. L. Van Es and H. M. Martin. (Nebraska Sta. Research Bul. 30, pp. 78, pls. figs. 3. February, 1925.)
- Tuberculosis of swine. L. Van Es. (Nebraska Sta. Circ. 25, pp. 27, figs. 10. February, 1925.)
- Analyses of commercial fertilizers, fertilizer supplies, and home mixtures for 1924. C. S. Cathcart. (New Jersey Sta. Bul. 405, pp. 37, fig. 1. November, 1924.)
- Analyses of commercial fertilizers and ground bone; analyses of agricultural lime. 1924. C. S. Cathcart. (New Jersey Sta. Bul. 409, pp. 35. (December, 1924.)
- Fertilizer registrations for 1925. C. S. Cathcart. (New Jersey Sta. Bul. 413, pp. 24. January, 1925.)
- The maintenance of soil fertility.—Thirty years' work with manure and fertilizers. (Ohio Sta. Bul. 381, pp. 243-354, figs. 10. June, 1924.)
- Washington poultry houses. J. S. Carver, R. Shoup, W. D. Buchanan, and L. J. Smith. (Washington Col. Sta. Bul. 188, pp. 88, figs. 46. January, 1925.)

Articles in Current Publications by Department Workers

- Barnes, W. C. (Forest Service). Oregon and Idaho in winter. Breeder's Gazette, March 19, 1925.
- What is the future of the cattle business? Producer, April, 1925.
- Impressions of the western range. Breeder's Gazette, April 9, 1925.
- Bates, C. G. (Forest Service). How willows stop erosion. American Forests and Forest Life, April, 1925.
- Bruce, D. (Forest Service). A formula for the Scribner Rule. Journal of Forestry, April, 1925.
- Cochrane, H. D. (Forest Service). American forest week: Wyoming forest week. Wyoming Roads, April, 1925.

- Collier, G. A. (Agric. Economics). The grain-market situation. Dakota Farmer, April 15, 1925.
- Darrow, G. M., and Detweiler, S. B. (Plant Industry). Currants and gooseberries spread rust. Better Fruit, vol. 19, no. 10, pp. 10, 15-18. April, 1925.
- Edwards, V. P. (Forest Service). White water utilization. Paper Mill and Wood Pulp News, March 28, 1925.
- Forbes, R. D. (Forest Service). The roots of trees. American Forests and Forest Life, April, 1925.
- Galpin, C. J. (Agric. Economics). Rural sociology. Bul. 37. Bureau of Education, U. S. Dept. of Interior, April, 1925.
- Greely, W. B. (Forest Service). Economic aspects of forestry. Journal of Land and Public Utility Economics, April, 1925.
- Guthrie, J. D. (Forest Service). This man likes danger: Charles Phelps, forest fire lookout. Sunset Magazine, March, 1925.
- The redwoods of Oregon. Four L Bulletin, April, 1925.
- Forestry on Arizona State lands. Journal of Forestry, April, 1925.
- Hann, R. M. (Bureau of Chemistry). The condensation of rhodanil acids with isatin. 3-aryl-rhodanil-5-3-oxindoles. In J. Am. Chem. Soc., Vol. 47, No. 4, April, 1925.
- Hanson, Karl B. (Biological Survey). Lungworms in foxes and their treatment. Fox Breeders Gazette, vol. 1, no. 6, pp. 11-12, March, 1925.
- Hauzlik, E. J. (Forest Service). A site classification scheme for the western Cascades forest region. University of Washington Forest Club Quarterly, March, 1925.
- Trees: A study for lumbermen (continued). Four L Bulletin, March, 1925, page 12.
- Howell, A. B. (Biological Survey). On the alimentary tracts of squirrels with diverse food habits. Journal Washington Academy of Sciences, vol. 15, no. 7, pp. 145-150, April, 1925.
- Hutchinson, W. I. (Forest Service). The Forest Service conference. San Francisco Water, April, 1925.
- Kellogg, Remington (Biological Survey). Additions to the Tertiary History of the Pelagic Mammals on the Pacific Coast of North America. Carnegie Institution of Washington, pub. No. 248, pp. iii+120, April 21, 1925. Text, figs., and plates 1-13.
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EXTENSION FIELD STUDIES PLANNED

Plans for making field studies of extension work in New Jersey and Massachusetts during May and June have been completed by the Office of Cooperative Extension Work and the directors of extension work in those States.

The field study in New Jersey, scheduled for May 25 to June 6, will center around the problem of local leadership. Approximately 300 of the 1923 and 1924 local project leaders in Middlesex, Monmouth, and Mercer Counties will be interviewed by a representative of the State or Federal extension service to learn of the ways in which these voluntary leaders have assisted in forwarding extension work in their respective localities. Information will also be obtained from about 600 farmers and home makers in a contiguous area relative to ways in which they have been reached by the extension service with special reference to assistance received from local leaders.

The Massachusetts field study to be conducted in Middlesex County, May 4-16, will be confined to junior extension or boys' and girls' club work. The influence of extension work on young people who have been in club work, the

effect of club work on agricultural and home practices, and the reasons why more boys and girls of club age are not enrolled in club work are some of the more important problems which will be studied.

The field data will be collected by survey parties composed of representatives of the Office of Cooperative Extension Work and of the State extension services, working under the general direction of M. C. Wilson, of the Federal department.

ANDES EXPLORED FOR NEW PLANTS

(Continued from page 1)

The babaco, a hardly relative of the tropical papaya, first studied in 1921 but not successfully introduced at that time, was brought for trial in California and Florida. This plant is known only from Ecuador; its yellow, highly aromatic fruit, a foot in length by 4 or 5 inches in thickness, makes excellent sauces and preserves.

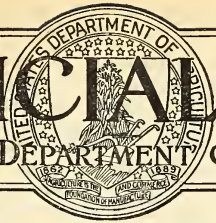
The gramalote, a new forage grass from the vicinity of Guayaquil, where it is cultivated and highly esteemed, was secured for trial on moist lands in Florida and other warm regions. Botanically it is known as *Axonopus scoparius*.

The yellow-fleshed Andean potatoes are not cultivated in the United States, but are reported by all who have eaten them to be unusually rich in flavor. They do not differ in external appearance from the potatoes grown in this country, but when opened they are found to have flesh of rich yellow color, which when boiled suggests a roasted chestnut in taste. Plant breeders of the department hope to utilize the tubers of this potato, which Mr. Popenoe brought from Peru in producing varieties better adapted to the climate and soil of the United States but retaining at the same time the characteristic yellow color and nutty flavor.

The Director of the Department of Labor of Bombay, India, G. Findlay Shirras, was a recent visitor at the department, where he conferred with officials regarding crop-estimating work, especially cotton reporting. He stated that the American cotton reports have a tremendous influence upon markets in India and are watched very closely, and complimented the department upon its excellent statistical service. Since landing at New York April 4, Mr. Shirras has lectured at Harvard, Yale, and Princeton on finance, international payments, exchange rates, etc. He sailed for London April 25.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 19

SECRETARY TO MAKE INSPECTION TRIP WEST

Will Deliver Limited Number of Speeches—Main Object to Study Problems in the Field

In accordance with a promise made early in his administration, Secretary Jardine is planning to make a trip into the field in order to meet as many of the "department family" and associates as possible and to better acquaint himself with what they are doing. On May 27 the Secretary will leave Washington for a western inspection trip, which will last six weeks. At a later time he expects to go to the Southwest and through the East and South.

The trip of Secretary Jardine will take him to California, with stops in Kansas, Utah, and Idaho on his way West, and in Washington, Oregon, Montana, North Dakota, Minnesota, Nebraska, and Iowa on the return. As the tour is primarily for field inspection, the Secretary is accepting but a limited number of speaking engagements.

To Speak On Transportation Problems

He is scheduled to speak before a transportation conference at Chicago on May 28. At this conference problems will be discussed by those interested in the general subject of transportation, including officials of railroads and motor truck and bus manufacturers. The Secretary also will visit the Chicago stockyards, where he will confer with livestock men.

On June 6 he will give the commencement address at his alma mater, the Agricultural College of Utah, and has accepted an invitation to talk to Utah farmers at Logan on June 8. During the next three days he will tour the Targhee National Forest, where the Forest Service of the department is carrying on a variety of activities.

Plans are being made for Secretary Jardine to open officially the Wendover

Road on June 13. This road leads through Salt Lake City to the Utah-Nevada line, crossing over the Great Salt Desert. It is built for a considerable portion of the distance over solid beds of salt and completes a section of the transcontinental route. It is one of the most unusual pieces of road construction in the United States, and officials from the three near-by States will take part in the ceremonies.

Secretary Jardine will spend more than a week in California, giving a part of his time to inspecting forestry work and the scene of the serious foot-and-mouth disease outbreak of last year. He has accepted an invitation to speak before the National Electric Light Association at San Francisco on June 18 on the relation of electricity to agriculture. Among other things in California to receive the attention of Secretary Jardine will be the cooperative marketing of farm products, which has been developed to a high degree in that State.

Will Visit Range Livestock Station

After a three or four day stay in Washington and Oregon, the Secretary will make several stops in Montana. These will include a visit to the old Keogh Military Reservation near Miles City, which has been transferred by an act of Congress to the Department of Agriculture for use as an experiment station for the study of range livestock problems. It contains 55,000 acres of grazing land and 2,000 acres of irrigated land and is the first station of its kind in the United States.

At Mandan, N. Dak., Secretary Jardine will address a farmers' meeting on July 3 or 4. In addition to this, the Secretary will enter the broncho-riding event of the third annual Mandan roundup, having accepted the "dare" of one of his boyhood friends, John M. Stephens, superintendent of the United States northern Great Plains field station. As boys, Secretary Jardine and Mr. Stephens punched cows together. Although the Secretary has not broken bronchos for some years, he is willing to try it again.

(Continued on page 7)

NO FOREIGN BULBS TO BE ENTIRELY EXCLUDED

Many Foreign Bulbs Open to Un- limited Entry—Restricted Entry Permitted of All Others

The department has been advised from many sources that statements are being made to bulb purchasers by dealers and others, that after this year no foreign bulbs will be permitted entry into the United States. In order to correct this widespread belief, the Federal Horticultural Board announces that no limitation has ever been put on the entry of tulips, hyacinths, crocuses, lilies, and the lily of the valley, and these will remain, as in the past, open to unrestricted entry.

Ample Entry for Public Service

All other bulbs, namely, the "restricted" bulbs, have been and will remain open to entry to meet any essential needs. Such needs include entry for the introduction of new varieties, for seed stock for the purpose of establishing home production, and for any experimental, educational, or scientific purpose. In other words, ample entry is provided for all purposes which are deemed to have a public-service quality, and the restrictions apply merely to commercial entry for immediate sale. There has, therefore, never been any real embargo in force or in view with respect to any class of bulbs.

The reason for the restrictions on the entry of certain bulbs is that it is recognized that any importation of bulbs or other plants is attended with an element of danger of bringing in pests, and that this risk increases directly with the variety, volume, and diversity of origin of the imports. Such danger with any class of plants must be weighed against the horticultural or other need for the plants concerned. With respect to bulbs, it was originally supposed that these

were nearly in the class with seeds as presenting the minimum risk, but the inspection of bulb imports over a series of years has disproved this idea and shown that bulbs may be the means of introducing general farm pests, some of which are of a highly destructive character. The reduction of such risk has been the basis of the restrictions which have been placed on the entry of certain classes of bulbs, namely, (1) those which were known to be most liable to carry serious plant pests, and (2) those which are being produced in the United States or are likely in the near future to be so produced, in quantities sufficient to meet home needs, and hence presenting no important horticultural need as an offset to the risk.

The important bulb which, on account of grave pest dangers, will be added to the "restricted" list, beginning with 1926, is the narcissus (daffodils, paperwhites, etc.). Certain other bulbs of minor importance will also be placed on the restricted list with 1926. These other bulbs were originally under restriction, but two years ago these restrictions were lifted for a three-year period to give our growers opportunity to undertake production of these bulbs to meet home needs.

Progress Made in Home Production

On the subject of the probability of home production of these bulbs to meet American needs the department is advised that very substantial progress has been made and that the outlook for the successful meeting of such needs within a few years seems favorable. Furthermore, after 1925, as already indicated, there will still be afforded under the quarantine ample opportunity for the importation of narcissus and other seed bulbs for planting stock and the introduction of new varieties, etc. Of the narcissus class it may be noted that the daffodil is now being produced in enormous quantities in the United States, and at Easter time and later not only our markets but our street corners are massed with these flowers for sale—certainly so in Washington—flowers for which our local growers receive in bulk sales 24 cents a dozen but which are sold at retail at from 75 cents to \$1 or more a dozen.

With respect to the belief that the department's restrictions have put a serious check on the entry of foreign bulbs, the public evidently is entirely unaware of the fact that more bulbs are coming into the United States now than prior to 1919, when there were no restrictions whatsoever on entry! For example, in the fiscal year ending June 30, 1914, just preceding the war, and

therefore uninfluenced by war conditions, the importation of bulbs, roots, and corms cultivated for flower or foliage of all kinds totaled approximately 178,000,000, whereas the importations into the United States for the fiscal year 1924 of the same classes of plants amounted to nearly 271,000,000, of which some 12,000,000 represented the restricted or so-called embargoed bulbs which were imported as seed stock. In spite of all the restrictions, the year 1924 holds the record for bulb importations! The importations in the calendar year 1918, the year immediately preceding the placing of restrictions on the entry of certain classes of bulbs, totaled only some 105,000,000, much less than half the importations of 1924; but the importations of that year were undoubtedly adversely affected by war conditions. Furthermore, on the basis of the importations of 1924, and in spite of the added restrictions to be enforced with respect to narcissus and certain minor bulbs, the bulb importations of 1926 will probably exceed 200,000,000 bulbs, and it is quite within the possibilities that 1926 may even prove to supplant 1924 as the banner bulb importation year! This estimate, moreover, does not include the importations which will be possible under special permit of the restricted bulbs for seed or planting purposes, which may easily total 25,000,000 or 30,000,000.

Assistant Secretary Addresses Garden Association Convention

"Your principal object, to beautify, is something which many of the organizations designed for the betterment of the farm and country life have very largely ignored," said Assistant Secretary of Agriculture Dunlap in an address made before the Womens' National Farm and Garden Association, at Washington, May 5. "We have done something in the Department of Agriculture for the improvement of farm home surroundings, and in spite of the importance of increasing the income of the farmer, I think more and more of that sort of work should be done. It is encouraging to have the assistance of such a vigorous organization as this one."

Mr. Dunlap stressed especially the value and importance of the home garden, saying that often its importance was out of all proportion to its size or seeming value. "The Department of Agriculture has found that during periods of stress among farmers, the garden is frequently the anchor which has kept the farm from getting away. In other cases the lack of a garden has

been the straw that broke the farmer's financial back. Gardens may not be the means of solving the big economic problems for the farmer, but it appears that in many instances they solved momentous ones for certain individuals."

The Assistant Secretary then went on to tell of the work of the department in the breeding and development of new varieties of native plants and the introduction of new ones into this country. Among the latter, which have brought to the American farmers and orchardists an enormous income, he mentioned the Washington Navel orange, Durum wheat, and Sudan grass.

One of the most important factors in helping to start new ideas in gardening has been the boys' and girls' club work. Speaking of this, Mr. Dunlap said: "Scattered over the country there are now about 600,000 boys' and girls' club members encouraged by the Department of Agriculture and various States. A large share of these boys and girls are in garden club work or have done some garden club work during their club membership. These are the future citizens who will help to make the work of such associations as this and the Department of Agriculture successful."

In closing, Mr. Dunlap praised the work of the Womens' National Farm and Garden Association, stating that the department used various means of getting its information to the public, but such associations were regarded as the most effective means for stimulating interest in agriculture and home improvement.

STUDY FARM PRICES FOR PAST CENTURY

Persons having any old diaries or records or know of any which show prices received by farmers for their products or prices paid for articles purchased by farmers during the past 100 years are asked to communicate with Charles F. Sarle, of the Bureau of Agricultural Economics of the department.

Mr. Sarle is making a statistical study of prices on all farm products and of things that farmers buy, to develop index numbers and charts on the long-time trend of prices. This historical series of prices will be used in various ways by the department in connection with forecasts of what prices will be in the future.

Records of this character, says Mr. Sarle, are usually available from files of country newspapers, farm magazines, accounts of mercantile transactions of country merchants, grain and livestock buyers, and private accounts of farm sales and purchases.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Colorado.—G. P. Newson has resigned as county agent in Lincoln County to engage in farming, and L. C. Gilbert has succeeded him. A. J. Taylor has resigned as county agent in Fremont County to enter business in Utah.

FORTHCOMING CONFERENCES

The Colorado Farmers' Congress will meet this year at Colorado Agricultural College July 8, 9, and 10. This is a working conference of representatives of all farm organizations at which extension and general agricultural problems are discussed. Secretary W. M. Jardine and Hon. Robert M. Carey, former Governor of Wyoming, and now chairman of the President's Agricultural Commission, have been invited to address the congress.

NEW LEGISLATION

The New Hampshire Legislature has passed the mill-tax bill for the support of the University of New Hampshire, providing for each fiscal year a sum equal to one mill on each dollar of the assessed valuation of the taxable property of the State. During the next two years this appropriation is expected to amount to about \$585,000 a year. One of the results of the expansion thus made possible will be the addition of specialists in crops, poultry, and horticulture to the extension staff, and probably later of specialists in rural engineering and nutrition.

As a separate measure the legislature also passed a county extension bill appropriating \$36,000 a year in furtherance of county cooperative extension work in agriculture and home economics. The bill is designed to make possible three lines of work—agricultural, home demonstration, and junior—in each county, and to offset Federal and county funds in the proportion of one part Federal, two parts State, and three parts county. Offsetting \$1,200 State and \$600 Federal funds for each county extension worker, county conventions are required to appropriate an average of at least \$1,800 per agent. Any balance remaining in the appropriation, due to the failure of county conventions to appropriate for one or more agents or due to lapses in appointment or other causes, may be expended with the approval of the governor and council by the director

of extension of the university in the furtherance of county extension work.

The University of New Hampshire is designated as the official agency of the State for carrying out the provisions of the act, and the director of extension is administratively responsible to the president and board of trustees for the proper expenditure of the funds, subject to the regular university and State audit.

As a result of this measure it is expected that extension work in the State can hereafter be operated practically entirely on public funds without the use of the farm bureau membership fees. The farm bureaus will, however, continue to be the semiofficial county farm organizations through which the extension service will especially operate.

ARGENTINA TO SEED KANRED WHEAT

Two hundred tons of Kanred wheat for planting in different parts of the Argentine Republic were recently ordered by cable through the Argentine embassy at Washington by Dr. T. A. Le Breton, former ambassador to the United States and now minister of agriculture. The department assisted the embassy in obtaining the seed wheat which was purchased through the Kansas Agricultural Experiment Station from the Hays substation and from a private grower in that State. The 200 tons of grain was shipped to New York in six cars and is enough to seed nearly 7,000 acres.

Kanred, now a well established variety of hard red winter wheat, was developed by the Kansas station from a Crimean strain introduced from Russia by the department.

At various times the Argentine Department of Agriculture had introduced for experimental purposes from this country smaller quantities of various improved crops, including other wheats, cotton, oats, peanuts, and forage plants. The Kanred variety of wheat had been carefully tested under Argentine conditions and found to be well adapted.

Dr. Theodor Roemer, professor of selective plant breeding of Halle University, recently visited at the department. Doctor Roemer is a member of a commission appointed by the German Federal Ministry of Food and Agriculture and by farmers' organizations, and is particularly interested in the breeding of wheat, oats, potatoes, and sugar beets and in such pathological work as has a bearing on the breeding of these crops. He will spend the summer months in visiting sections of the United States where the several crops can be studied at suitable stages of growth.

Bighorn Mountain Sheep May Again Frequent the West

"Can you tell me where I can secure two buck mountain sheep and three ewes for extensive ranges in this State which were once occupied by large numbers of bighorn?" Such inquiries are quite commonly addressed to the Biological Survey. The only answer that can be given, says Dr. E. W. Nelson, chief of the bureau, is that there is no place in the United States at present where mountain sheep can be secured either for exhibition or for breeding purposes. Several shipments of bighorn have come into the United States recently as a result of the courtesy of the Canadian Government. These animals—12 of them, 8 ewes and 4 bucks—were captured in one of the Canadian parks and shipped into Montana and turned loose in 1922 on the Montana National Bison Range. On this 18,000-acre game refuge in northwestern Montana they have bred twice, and the flock now numbers 28.

As far as now known, the breeding of mountain sheep is similar to that of domestic sheep, with which 75 and 80 per cent lamb crops are not unusual. The Biological Survey, therefore, confidently looks forward to the time when the mountain sheep on the Montana Bison Range will number 500—say, 450 ewes and 50 bucks. With such a flock, allowing a wide margin for losses, there should be 350 or more available each year for shipment from the range to stock suitable areas throughout the country.

One shipment of mountain sheep recently received in this country from the Canadian Government was placed on the Custer State Park and Game Refuge in the Black Hills of South Dakota. The six ewes each gave birth to a lamb the year they were received. One animal, which was injured in shipment, died during the summer, but at last reports the others were doing remarkably well.

There is an enormous acreage of good mountain sheep country in the western United States, and there is no finer big-game animal for such areas than the bighorn.

At a recent meeting of the executive committee of the Chicago Federal Business Association, E. P. Lemott, of the Chicago joint office of the Bureau of Agricultural Economics, was appointed a member of the educational and publicity committee of the association, which committee in addition is represented by one member of the Post Office Department and one from the Department of Commerce.



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OFFICIAL ANNOUNCEMENTS

Memoranda of Office of Personnel and Business Administration

Allocation of New Positions Prior to Announcement by the Civil Service Commission

P. B. A. CIRCULAR NO. 1—April 21, 1925.—The present method of transmitting to the Civil Service Commission suggested drafts of announcements of examinations for securing eligibles for new positions in the departmental service, without first obtaining the grade allocation of such positions from the Personnel Classification Board, in some instances has caused embarrassment, not only to the department, but also to the eligible under consideration for appointment.

Particular reference is here made to the salary fixed by the department and advertised by the Civil Service Commission for the position in question. Under the present procedure, at the time of making an appointment from the list of eligibles the Personnel Classification Board finds that the salary proposed to be paid is not always in accordance with the duties to be performed. In such cases a reduction in salary must be made before what the prospective employee has been led to expect.

In order to correct this situation, hereafter there should be submitted through this office to the Personnel Classification Board a classification sheet for proper grade allocation in advance of announcement by the Civil Service Commission of a new position.

Telephone Orders

P. B. A. CIRCULAR NO. 2—May 1, 1925.—Orders for installation, change, or removal of telephones in Washington, heretofore handled by the fiscal section of the Office of Inspection, will in the future be handled in the telephone and telegraph section of the Office of the Chief Clerk. Requests from bureaus and offices should be sent directly to the superintendent of telegraph, where the formal orders on the telephone company will be prepared for the signature of the chief clerk.

Division of Purchase, Sale, and Traffic Established

P. B. A. CIRCULAR NO. 3—May 1, 1925.—In carrying out the provisions of Secretary's memorandum 530, which merged the work of the Office of Director of Purchase and Sales and the Office of the Traffic Manager, there is

hereby established in the Office of Personnel and Business Administration the division of purchase, sales, and traffic. Mr. Alex. McC. Ashley has been appointed chief of this division. Mr. J. M. Lockname has been appointed assistant chief of division and will be acting chief in the absence of the chief of division.

The chief of the division of purchase, sales, and traffic will be the representative of the Department of Agriculture on the Federal Purchasing Board and the Federal Specifications Board.

ENTERTAIN PAN-AMERICAN WOMEN

The delegates to the All-American Association for the Advancement of Women visited the Bureau of Home Economics on May 1 and were served a luncheon representing food products on which experimental work has been done by the department. Secretary Jardine and Assistant Secretary Dunlap, Dr. and Mrs. E. D. Ball, and Doctor and Mrs. Warburton assisted Dr. Louise Stanley and the staff of the Bureau of Home Economics in receiving the delegates and explaining to them the work of the department, especially as it relates to the home. The representatives from the various countries were as follows: Argentina, Senora Jean T. Raynes; Brazil, Dona Bertha Lutz; Canada, Mrs. Ella M. Thorburn; Chile, Senora Amanda Labarca and Senora Beatriz Letelier de Reyes; Costa Rica, Senora Sara Canal de Quiros; Colombia, Senora Maria Suarez de Coronado; Cuba, Senora Pilar Morlon de Menendez; Mexico, Senorita Elena Torres and Senora Maria Fernandez Esperon; Panama, Senora Ester Niera de Calvo and Senorita Teodolina Almilitique; Porto Rico, Senora Milagras Benet de Newton and Senora Dolores Marta Robert; United States, Mrs. Carrie Chapman Catt, who is also president of the association, and Mrs. Phillip North Moore, president of the National Council of Women.

NUTRITION PROGRAM FOR WOMEN'S CLUBS

At the request of the General Federation of Women's Clubs, Dr. Louise Stanley, of the Bureau of Home Economics, has drawn up a program on nutrition. This suggested plan will be distributed to the State chairmen of the Department of the American Home of the federation, and by them passed on to leaders of local clubs. These local chairmen will in turn shape it to meet conditions in their communities and present it to the other members. Three million women will thus be enlisted in carrying out a program for better nutrition based on better food selection and better food habits.

As one means of "getting over" this nutrition program, brief outlines are given for talks on such topics as "The undernourished person carries a heavy handicap through life" and "Feeding our families for efficiency." Sources of reference material, much of which is obtainable free, are cited, and cooperation with public agencies in local and national demonstrations is urged. For instance, child health week, home garden week, better homes week, can all be turned to good account in pointing out the definite relations between food and health and in furnishing the ways and means for better nutrition of all members of the family beginning with the children.

ORDER TEXTILES FROM PENITENTIARY

A circular just received from the Director of the Bureau of the Budget announces that the textile mill, United States Penitentiary, Atlanta, Ga., in addition to cotton duck, is now prepared to fill orders from Government departments and establishments for denims; drills, three leaf; nainsook, checked and plain; and sheeting, 40 inches to 81 inches in width.

The provisions of Circular No. 102, Bureau of the Budget, April 20, 1923, which relate to the procurement of cotton duck from the textile mill, United States penitentiary, Atlanta, Ga., are extended so as to embrace the materials mentioned above.

SUBJECT INDEX OF MAILING LISTS

Announcement is made by the mailing lists record section, Office of Publications, of the release of a subject index of the mailing lists of the department revised to April 15, 1925. Copies needed for official use of the department can be obtained by applying to the above-mentioned office.

The Office of Information held its second get-together party at the Washington Club on May 9. The party had been arranged for this time in order to have as guests the new Secretary of Agriculture and Director of Information Crawford. A reception was held for Secretary Jardine, Mr. and Mrs. Crawford, and the directors of other lines of work. Dancing, cards, and cross-word puzzles followed. Among those present was a limited number of members of the department in related lines of work.

A series of three public hearings on proposed tentative Federal grades for flue-cured tobacco are being held by the department at Richmond, Va., May 11; Raleigh, N. C., May 12; and New York City on May 19.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. From where do birds of paradise and egrets come?

Answer. Birds of paradise are found in New Guinea, Molucca Islands, and a few other neighboring islands; also in northeastern Australia. Egrets range from the United States south to southern South America; from central Europe south to southern Africa; and from north central Asia south to Australia. Egrets are afforded protection under the treaty between the United States and Great Britain, for the protection of birds migrating between the United States and Canada, and may not be killed, sold, or possessed, except for scientific purposes. The importation of both birds of paradise and egrets or their plumage is prohibited by paragraph 1419 of the tariff act of 1922.

Question. How did the purchasing power of the farmer's dollar in 1924 compare with that of 1920?

Answer. In 1920 the index number of wholesale prices of nonagricultural products was 241 compared with 100 before the war. As a result, \$1 when exchanged for these commodities could buy only 41 per cent as much as before the war. At the same time the index of prices paid to farmers for their products was 205 compared with 100 before the war. If the prices of units of farm products were exchanged for nonagricultural commodities, they could buy about 85 per cent as much as formerly. In 1924 the relative value of the dollar increased to 62 per cent of its pre-war purchasing power, and prices paid to farmers for their products (index No. 134) had a relative purchasing power of 83 per cent.

Question. Does the drainage of marshes, sloughs, or small lakes have any effect on the rainfall of the region so drained?

Answer. The Weather Bureau of the department answers in the negative. Those who are interested in the conservation of wild life through the prevention of unnecessary drainage of the breeding and resting places of migratory birds and other animals sometimes advance the argument that such drainage will also affect the rainfall of the district in addition to destroying the natural habitat of wild birds and interesting plant life. There is no need to reinforce the plea for protection, which has a universal appeal in any case, with a per-

version of fact. Rainfall records maintained by the Weather Bureau in Minnesota both before and after drainage operations may be taken as an example of conditions existing elsewhere. These records happen to show that the rainfall following drainage was slightly greater than that of the period preceding it, but the trained meteorologist knows that many other factors may or may not affect climate and must enter into consideration. While the available records for this region conclusively show that reclamation by drainage did not cause a reduction in rainfall, they can not be taken to prove that the drainage was responsible for the slight increase. Dry cycles have come and gone in the past, alternating with wet cycles, and in the opinion of scientists drainage has no effect either way.

Conservation of Wild Life Helped by Sixty-eighth Congress

Among the bills approved by the Sixty-eighth Congress which have a direct bearing on the welfare of our national wild life may be mentioned the Alaska game law, providing for the establishment of an Alaska game commission of five members to act in cooperation with the Secretary of Agriculture in administering the law for Alaskan game and land fur-bearing animals. The passage of this new game law was preceded by a joint resolution transferring jurisdiction over Alaskan game from the Department of the Interior to the Department of Agriculture in line with the policy of consolidating activities under the Biological Survey for protecting game and land fur-bearing animals. An act for the protection of fisheries in Alaska is designed to prevent the overexploitation of salmon and other valuable fisheries of the Territory.

Among other helpful bills is the one creating the Upper Mississippi Wild Life and Fish Refuge and authorizing \$1,500,000 to be appropriated for the purchase of overflowed bottom lands along the Mississippi River between Wabasha, Minn., and Rock Island, Ill., a distance of about 300 miles. The agricultural appropriation bill for the year beginning July 1, 1925, makes actual appropriation of \$400,000 to begin the project.

Two bills were passed affecting game in South Dakota—the antelope refuge bill and a bill authorizing the addition of 30,000 acres to the Custer State Park Game Sanctuary. Several other measures for the direct protection of large game were passed; one authorized the

establishment of a Federal game refuge in Arkansas; another a game refuge in the Medicine Bow National Forest of Wyoming. An act amending the Penal Code includes protection to all wild animals and property on Federal refuges, so that all wild life, including birds, now receives protection there. An important law prohibits oil pollution in navigable waters under heavy penalties. Oil waste destroys oysters and other shellfish and the fertility of fish spawn, and covers the feathers of ducks, geese, and other water birds, causing the death of untold thousands of them each year. An international treaty will be required to prevent the dumping of oil on the high seas beyond the jurisdiction of the maritime nations.

BUREAU ISSUES NEW DIRECTORY

A directory of the Bureau of Animal Industry of the department, just issued, is being distributed among the principal offices and field stations of the bureau and is also available to officials of meat-packing establishments and others having regular contacts with bureau activities. The directory is revised to January 15, 1925.

It deals principally with the organization and field stations of the bureau, federally inspected meat-inspection establishments, laboratories to which products may be sent for analysis, and licensed establishments which manufacture biological products. An address list of officials in charge of stations and others whom the public has frequent occasion to consult likewise is included.

The directory contains 60 pages and its free distribution is limited to department employees and persons having regular official business with the Bureau of Animal Industry. Others may obtain copies at 10 cents each by addressing the Superintendent of Documents, Government Printing Office, Washington, D. C.

Prof. W. G. S. Adams, of All Souls College, Oxford University, England, was a recent visitor to the Bureau of Agricultural Economics, where he studied the work of cost of production, cooperation, and crop estimating—particularly the preparation of outlook reports and price forecasts. Mr. Adams is a teacher of political science at Oxford. He is also a practical hog and wheat raiser and is interested in the organization of cooperative organizations among the farmers of England. He is a member of several important committees and commissions directing research work in agricultural economics in his country, and at one time was intimately associated with Sir Horace Plunkett.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

DEPARTMENT DEALS WITH NAVAL STORES

"Naval stores" is a term that to-day is applied to turpentine, rosin, pine tar, and pine pitch. The department has been concerned with naval stores since its organization—in the earlier years more especially with production, in more recent years with grading, handling, and uses also. The work of the department on naval stores is handled in close cooperation by the Forest Service and the Bureau of Chemistry, Forest Service dealing principally with the forestry and woods work, growing the trees, the physiology of gum production, the most economical and rational ways of cupping the trees and gathering the gum from them, and the Bureau of Chemistry dealing primarily with methods of making the gum into turpentine and rosin, including demonstration of the best methods of making, packing, grading, marketing, accounting, and with the enforcement of the Federal naval stores act of March 3, 1923.

The work planned by the Bureau of Chemistry for the present year consists of a thorough study in cooperation with an extensive turpentine operator of improved methods of clarifying the gum before distillation and also of several types of improved stills, including a continuous still. Due notice of the location and start of these experiments will be given in order that all turpentine farmers who are interested may observe and profit by them. The accounting system for naval-stores operations will be further developed and demonstrated at the same time. Here it is expected that much data on other problems of naval stores production will also be obtained, such as the losses at various stages of production and how to prevent them; methods for gluing turpentine barrels; the effect of temperature of still on grade of rosin; the difference in grade of rosin in the bottom and in the top of the barrel; depth of bleaching on exposure; losses of turpentine in storage, and many other questions which though of minor importance, all affect the quality and quantity of the products and consequently the profits of the business. The work also embraces studies of the methods for the identification of turpentines and rosins and for the detection and determination of adulteration, change or deterioration, and also for the deter-

mination of the constants of these materials.

Outstanding accomplishments in this work with naval stores have been the development of permanent standards for the grading of rosin, which have long been accepted by the trade and were made the United States rosin standards by the Federal naval stores act of March 3, 1923; the perfecting of a method by which the presence of as little as 1 per cent of mineral oil can be detected in spirits of turpentine; the development of a method for determining the crystallization properties of rosin; the development, with the cooperation of other Government departments and the American Association for Testing Materials of specifications for spirits of turpentine, which, together with the methods for examining turpentine, were based on the work of the bureau and which have been accepted by the American Society for Testing Materials and the Federal Specifications Board to be used in purchasing turpentine; and the development of a process, for which a public service patent has been granted, by which the highest grades of rosin can be made from the low grades.

For several years at the earnest solicitation of producers and users of naval stores the Bureau of Chemistry compiled statistics showing the annual production, the stocks at stills, at ports, and in hands of consumers on the last day of the naval-stores season, March 31. For the past two years the work has been done in cooperation with the Bureau of the Census, which publishes the results.

WITH EXTENSION FORCES

CLUBS KEEP PRODUCTION RECORDS

A new extension agent in a yet unorganized county might read a little wistfully that the original local leaders of boys' and girls' dairy clubs in Mercer County, N. J., are still actively at work after five years' responsibility. He might note with envy that several farmers gave much valuable time last year for personal visits with the county club agent to present the importance of club work to the parents of prospective members. The record that dairy club work has reached every community and over 85 per cent of the members completed the year's work in 1924, might seem to him a high goal. But J. B. Turpin, club agent in Mercer County, says he had less than 10 members when he undertook the introduction of purebred-calf club work in the county five years ago, and there is a history of study and work

and helpful cooperation back of to-day's achievements.

Dairying is one of the main farm activities in this locality. Dairy problems have not all been solved, however, and the boys and girls of the county are attacking some of them in their clubs. Club programs for previous years have been made by committees of boys and girls and the club agent. Last year, however, each club member was asked to present six suggestions for club meetings, and from these the committees wrote their programs for this year. Some of the members' parents are present at almost every club meeting and frequently take part in the discussions. Tours to see each member's animals and one or more social evenings are always included on each program.

The adult dairy breeders' association of the county maintains a committee of four members to aid the junior work. It assists in locating new members and interviewing their parents, also in selecting calves for new members. Juniors are invited to join its dairy tours and for several years it has welcomed club members and their parents at its annual banquet, giving the boys and girls a place on the evening's program.

The young dairymen have held their own community fairs, some of them for four years. A tricity dairy show was the ambitious undertaking of one club last year.

A new feature in the program, begun last year, is the keeping of records on animals which have freshened and are owned by club members. This step was warranted, Mr. Turpin felt, after he and the county agent had made a survey of dairying in the county which showed very few farmers keeping records for their herds. Calf-feeding records have been kept by club members for some time.

The plan for this feature is simple. Post cards, addressed for return to the club agent, were sent to each member on the 15th and 30th of each month, asking for the morning and night weight of milk. After two of these cards had been received from a member, a summary card was sent, on which the member wrote the amount and cost of feed for the month, the value of his product, and the returns over feed cost. Butterfat tests were made in the county office from samples of milk taken by the members once each month, half of the members sending samples on the 15th and the remainder at the end of the month.

The record keeping has been of great interest and value, even in the short time it has been in operation. All members in the county, except two, with animals freshening have kept records.

BRIEF REVIEWS OF NEW BULLETINS

Field and Crop Labor on Georgia Farms. (Coastal plain area.) By L. A. Reynolds, associate economic analyst, Bureau of Agricultural Economics. Pp. 28, figs. 11. April, 1925. (Department Bulletin 1292.) Price, 5 cents.

This bulletin describes a survey of some 600 farms in the coastal plain area of Georgia that was made by the department. Every operation from preparing the land to the final disposition of the crop is included in the figures obtained. The results of the survey show the distribution of labor on various crops on the farms included in the survey, and the labor requirements for the various operations. Although the survey covered only the coastal plain area of Georgia, it is pointed out that the data should be useful to farmers in parts of North and South Carolina, Florida, Alabama, and Mississippi—States within the coastal plain where soil, climate, types of farming, and farm practices are similar.

Tillage and Rotation Experiments at Dickinson, Hettinger, and Williston, N. Dak. By Leroy Moomaw, superintendent of the Dickinson Substation of the North Dakota Agricultural Experiment Station and associate agronomist, office of dry-land agriculture investigations, Bureau of Plant Industry. Pp. 23, figs. 3. April, 1925. (Department Bulletin 1293.) Price, 5 cents.

The results of the experiments which are described in this bulletin emphasize the value of corn in the dry-land rotation. The yields of small grains following corn were greater than following small grains and not far below those on fallow. The highest average yields of most crops were obtained on fallow, but the increases over other methods were not sufficient to pay directly for its greater cost. Continuous cropping to wheat, oats, and barley resulted in marked reductions in the yields of those crops.

Some Effects of Sodium Arsenite When Used to Kill the Common Barberry. By E. R. Schulz, agent, and Noel P. Thompson, associate pathologist, office of cereal investigations, Bureau of Plant Industry. Pp. 19, pls. 4, fig. 1. April, 1925. (Department Bulletin 1316.) Price, 10 cents.

A discussion of the experimental work with sodium arsenite is contained in this bulletin. A review of the literature on arsenic, primarily sodium arsenite, in its relation to uses for weed killing, reveals the fact that arsenic has been extensively used for this purpose with good success and with no apparent permanent damage to the soil, which of necessity becomes the recipient of the substance. Soil organisms, such as bacteria, have been stimulated by small quantities of arsenic, and even higher plants grown on arsenic soils have shown stimulation, as manifested in increased growth. Since these studies were begun in 1921 the price of arsenic has about doubled, owing primarily to the greatly increased use of calcium arsenite for boll-weevil control. Even at its present price, however, arsenic should be considered when a weed eradicator is being sought. However, extreme precautions to prevent death of livestock always should be taken when using arsenicals.

Steer Feeding in the Sugar-Cane Belt. By J. R. Quesenberry, livestock specialist in charge, Iberia Livestock Farm, Jeanerette, La. Pp. 14, figs. 6. April, 1925. (Department Bulletin 1318.) Price, 5 cents.

As a result of the feeding experiments described in this bulletin, it has been found that so far as available feeds are concerned, cattle feeding can be made an important

enterprise in the sugar-cane belt. The experiments showed that sorgo silage compares favorably with corn silage and that silage made from sugar cane can be used to advantage, although it is not so palatable as that made from corn, soy beans, sorgo, or cow peas. The addition of soy beans to either corn or sorghum increased the value of the silage.

Ginning Pima Cotton in Arizona. By James S. Townsend, associate technologist, crop acclimatization and adaptation investigations, Bureau of Plant Industry. Pp. 12, pls. 11, fig. 1. April, 1925. (Department Bulletin 1319.) Price, 10 cents.

This bulletin states that the select Pima variety of cotton is much more uniform than any of the original seed stocks that were secured from Egypt, and that the irregular and uneven appearance of the bales has been produced by the diversity of methods employed in the various ginning establishments. It is believed that if all gin operators would use the same methods and precautions in construction, adjustment, and operation of roller gins, as well as in handling the cotton from the gin to the finished bale, the result would be a greater uniformity in the appearance of the baled cotton and of the commercial samples. As a result of these investigations conducted in Arizona by the department an attachment was devised for removing the lint from the gin roller in a manner that straightens the fibers and improves the appearance of the cotton, so that higher commercial grades are obtained.

Federal Legislation, Regulations, and Rulings Affecting Land-Grant Colleges and Experiment Stations. Compiled in the Office of Experiment Stations. Pp. 56. Revised April, 1925. (Department Circular 251.) Price, 10 cents.

This circular, revised to April, 1925, gives the text of Federal legislation, regulations, and rulings affecting the State agricultural colleges and experiment stations and the co-operative extension work in agriculture and home economics. The principal new features are revised regulations of the War Department regarding military training in the land-grant colleges, the text of the Purnell Act for the "more complete endowment of agricultural experiment stations," approved February 24, 1925, and revised schemes of classification of expenditures of the Federal funds for experiment station and extension work.

Work of the Belle Fourche Reclamation Project Experiment Farm From 1919 to 1922, Inclusive. By Beyer Aune, farm superintendent, office of western agriculture, Bureau of Plant Industry. Pp. 43, figs. 10. April, 1925. (Department Circular 339.) Price, 10 cents.

The work of the Belle Fourche Farm, according to this bulletin, is devoted to experiments in the production and utilization of crops under irrigation and by dry-farming methods. It relates chiefly to crops of local importance and includes also experiments in hog and sheep production, tests of pasture grasses, of trees for windbreaks and ornamental plantings, of garden vegetables, and of orchard and small fruit.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of April 27-May 2, 1925.

Copies of these publications may be obtained from the stations issuing them.

A study of the conductive tissues in shoots of the Bartlett pear and the relationship of food movement to dominance of the apical buds. F. E. Gardner. (California Sta. Tech. Paper 20, pp. 26, pls. 8. Apr., 1925.)

Relation of solids in milk to fat and specific gravity of the milk. O. R. Overman, F. A. Davidson, and F. P. Sammann. (Illinois Sta. Bul. 263, pp. 263-271, fig. 1. Apr., 1925.)

The cherry maggots. R. H. Pettit. (Michigan Sta. Circ. 67, pp. 2, fig. 1. Mar., 1925.)

Report from Holly Springs Branch Experiment Station for 1924. C. T. Ames. (Mississippi Sta. Bul. 223, pp. 25, fig. 1. Dec., 1924.)

Report South Mississippi Branch Experiment Station, 1922, 1923, and 1924. E. B. Ferris. (Mississippi Sta. Bul. 225, pp. 19, figs. 2. Dec., 1924.)

Cotton experiments, 1924.—Varieties and fertilizers. F. O'Kelly and R. Cowart. (Mississippi Sta. Bul. 226, pp. 12, fig. 1. Dec., 1924.)

Hogging down corn and soy beans. L. A. Weaver. (Missouri Sta. Bul. 224, pp. 20, figs. 10. Nov., 1924.)

The effect of different percentages of butterfat on the physical properties of ice cream. D. H. Nelson and W. H. E. Reid. (Missouri Sta. Research Bul. 70, pp. 24, figs. 20. Oct., 1924.)

Feeding pigs in a dry lot. W. E. Joseph. (Montana Sta. Bul. 169, pp. 52, figs. 19. Dec., 1924.)

Big scale corn raising in Montana. H. E. Selby. (Montana Sta. Bul. 171, pp. 46, figs. 14. Jan., 1925.)

Tenure and farm investment in Nebraska. J. O. Rankin. (Nebraska Sta. Bul. 205, pp. 36, figs. 5. Feb., 1925.)

The take-all disease of cereals and grasses caused by *Ophiobolus cariceti* (Berkeley and Broome) Saccardo. R. S. Kirby. (New York Cornell Sta. Mem. 88, pp. 45, pls. 3, figs. 4. Mar., 1925.)

Varietal trials with barley in North Dakota. T. E. Stoa. (North Dakota Sta. Bul. 184, pp. 46, figs. 9. Oct., 1924.)

Economical use of nitrogen, phosphorus and potassium by barley, oats and wheat in solution cultures. F. R. Fember and F. T. McLean. (Rhode Island Sta. Bul. 199, pp. 53, figs. 6. Feb., 1925.)

SECRETARY TO MAKE

INSPECTION TRIP WEST

(Continued from page 1)

After leaving Mandan, Secretary Jardine will make short stops at Minneapolis, St. Paul, and Omaha. He will study livestock conditions at the latter city. The last speaking engagement in the itinerary of the Secretary will be at Ames, Iowa. An invitation has been accepted, but the date is uncertain, probably about July 10 or 12.

That market news reports compiled by the Bureau of Agricultural Economics and broadcast by radio are of practical value is evidenced by many letters received from those who are making use of the reports. A dairyman in Elburn, Ill., recently wrote the Sears-Robuck station at Chicago which is broadcasting the bureau's reports, saying in part: "We are surely very grateful to your station for the daily market reports. By knowing the price per ton of cottonseed meal, we saved \$3 per ton on a 40-ton carload; the agent wanting that much more than the price you broadcast. The saving on this deal alone more than paid for the radio."

PRINCIPAL LIBRARY ACCESSIONS

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- Italy. Comitato nazionale di azione e di propaganda. Provando e reprovando per migliorare la coltura del frumento. Milano, Tipografia "A. B. C.", 1925.
- Lanza de Casananza, Francesco. Il progresso industriale agronomico del secolo. Trieste, 1870.
- Story, William. Essay upon the agriculture of Victoria. Melbourne, 1861.

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- Arkansas. University. College of agriculture. Extension division. Horticultural handbook for county agricultural and home demonstration agents. Little Rock [n. d.].
- Bailey, L. H. The gardener. New York, Macmillan, 1925.
- Cotter, Sir J. L. The culture of bulbs, bulbous plants and tubers made plain. London, Hutchinson [1924?].
- Forsyth, William. A treatise on the culture and management of fruit trees. London, 1818.
- Gérôme, Joseph. Plantes ornementales, herbacées de plein air et rosiers. Paris, Muséum d'histoire naturelle, 1924.
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- Ross, A. B. Big crops from little gardens. New York, Minton, Balch & company, 1925.

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- Hansen, Paul. Die entwicklung des ostreusischen schwarzweissen tieflandrindes von der geburt bis zum abschluss des wachstums. Hannover, 1925. (Arbeiten der Deutschen gesellschaft für züchtungskunde, Berlin, hft. 26.)
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MEAT INSPECTION

- Edelmann, Richard. Text-book of meat hygiene. 5th ed. Philadelphia, Lea & Febiger, 1925.
- Rennes, J. Inspection des viandes de boucherie, des volailles et gibiers. 2. éd. Paris, E. le François, 1921.

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- Mottet, S. J. Les arbres et les arbustes d'ornement de pleine terre. Paris, Bailière, 1925.
- Sibille, A. Le peuplier. Paris, Maison rustique [192-].

EDUCATION

- Conference of southern mountain workers. Knoxville, Tenn., 1924. Adult education in Scandinavia and America. New York, 1924.

MATHEMATICS

- Wallace, H. A., and Snedecor, G. W. Correlation and machine calculation. Ames, Iowa state college of agriculture and mechanic arts, 1925.

METALLURGY

- Gillett, H. W., and Mack, E. L. Molybdenum, cerium and related alloy steels. New York, Chemical catalog company, 1925. (American chemical society. Monograph series.)

REFRIGERATION

- Congrès national du froid. 4th. Strasbourg, 1923. Comptes rendus. Paris, L'Association française du froid, 1923.

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- Matthias, A. R. De la consistance des vernis et autres fluides. Paris, Dunod, 1924.
- Vassart, Henri. La chimie dans l'industrie textile. Matières colorantes artificielles. Paris, A. Michel, 1921.

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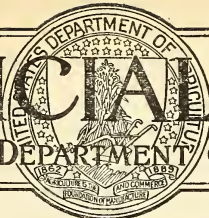
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MAY 20, 1925

No. 20

WESTERN STOCKMAN TO HEAD P. AND S.

Secretary Names John T. Caine, Experienced in Livestock Investigation and Practice

John T. Caine, of Logan, Utah, has been named by Secretary of Agriculture Jardine as head of the Packers' and Stockyards' Administration of the department, a position made vacant two months ago by the resignation of Chester Morrill. Mr. Caine, member of a family long identified with livestock and agricultural interests in the West, for a number of years was head of the animal husbandry department and later extension director of the Utah Agricultural College, and during a leave period of one year did livestock work for the department in the 15 Western States. He comes to his new position with the department from work in commercial livestock production which he has been carrying on since 1920.

Aim to Strengthen Confidence in Markets

"I have had in mind the unusual responsibilities of the position," said Secretary Jardine, in commenting on the appointment. "The public stockyard markets are an important factor in the livestock industry. Those agencies operating in the public markets provide services which are of great public interest. The packers and stockyards act lays down certain principles which should govern in these markets. Under this act certain duties and obligations are placed upon the Secretary of Agriculture, and it is my purpose to discharge these duties to the best of my ability. I want the relation of this department with all agencies to be co-operative and constructive. The packers and stockyards act puts into statutory form those general principles of fair dealing and upright conduct that should be common to all men. I want

to do everything I can to strengthen confidence in the livestock markets. It is important that the agencies operating at the markets should realize that the livestock of thousands of shippers is passing through the market centers every day and that the particular interest of no individual or group of individuals is paramount to the rights of those shippers. The duties of all are made plain under the law, and this department will be frank and fair at all times and ready to give its unbiased judgment on those matters which fall within the scope of its authority."

Mr. Caine is a graduate of the Utah Agricultural College and also has a degree from Iowa State College where he continued his livestock studies. He obtained experience on the home ranch in Utah, on ranches in Idaho, worked in the Chicago stockyards at one time as an eight-dollar-a-week yard boy, and has studied livestock problems in Great Britain and continental Europe. His father, son of a Utah pioneer, established one of the first herds of purebred cattle in that part of the country. The Caine farms, at Richmond, Utah, operated by the Caine Livestock Co. and the Caine Bros. Co., produce Jersey cattle, Hampshire sheep, and Berkshire hogs. All of Mr. Caine's four brothers are interested in livestock work. One is manager of the Caine Livestock Co., one heads the department of dairy husbandry of the Utah Agricultural College, another is associate professor of animal husbandry at Iowa State College, and the fourth is manager of the Eardly-Caine Livestock Co. of Idaho. The livestock industry made a strong appeal to this family.

Widely Known in Livestock Circles

Mr. Caine's wide interests have given him an extensive acquaintance in livestock circles in many States among leading stockmen and others interested in the business. He has judged livestock at most of the western fairs and is a director of the Utah State Fair Association and the Cache County Fair Association.

(Continued on page 8)

REPORT ON GRAIN PRICE FLUCTUATIONS

Evidence Shows Manipulation—Facilitated by Participation of the Public

Although there were indications of attempted or actual manipulation of the wheat market recently, proof necessary for the conviction of those who might be charged with a violation of the grain futures act had not thus far been obtained through the investigation of price fluctuations, according to a preliminary announcement on May 13 by Secretary Jardine. This announcement was made following a conference between the Secretary, Dr. J. W. T. Duvel, acting in charge of the grain futures administration and directly in charge of the investigation, and other officials of the department.

Changes of Quotations Unprecedented

The investigation, launched several weeks ago, was for the purpose of finding an explanation or a cause for the unprecedented fluctuation in the future grain quotations recorded throughout the period of trading beginning January 2, at which time May wheat deliveries closed at \$1.76 $\frac{1}{4}$ until April 3, when May deliveries closed at \$1.36 $\frac{1}{2}$. The recorded high quotations meanwhile were noted on January 28, when the market reached the height of \$2.05 $\frac{3}{4}$ and closed at \$2.05. The daily fluctuations were wide, several days showing 10 cents or more, the greatest range being noted on March 13 and March 30, when the range was, respectively, 13 $\frac{1}{4}$ and 13 $\frac{1}{2}$ cents.

The present investigation has consisted thus far of making a thorough examination of the records which members of the Chicago Board of Trade and other contract markets are required to keep under the terms of the grain futures act and the regulations of the Secretary of Agri-

culture. In addition to the statistics and documentary evidence obtained in this manner officials of the Department of Agriculture, in cooperation with specially designated representatives of the Department of Justice, have made a search through the files of telegraph and telephone companies for documentary evidence showing or tending to show concerted action or understanding on the part of principal operators or speculators to bring about a manipulation in the market.

Plan to Prevent Repetition

Although this investigation is still under way and, according to the information placed before Secretary Jardine, can not be concluded within the immediate future, the results so far clearly show that the wide fluctuations were due primarily to the heavy trading of a limited number of professional speculators; likewise, that their operations were facilitated to a considerable degree by the large participation on the part of the public after material advance in prices had occurred the last half of January.

While Secretary Jardine is determined to utilize the results of this investigation for the purpose of instituting whatever prosecutions may be justified under the law, he is concerned more particularly in the development of some method by which a repetition of such erratic and destructive price changes may be obviated.

With that purpose in mind he discussed on May 11 with representatives of the Chicago Board of Trade, including the president, Frank L. Carey, the desirability of that organization, if it is to continue to enjoy the benefits to be derived from its designation as a contract market, of promulgating rules that will facilitate the operation and maintenance of Federal supervision, prevent the development and dissemination of rumors in the nature of false, misleading, and inaccurate reports and statements, prevent actual or attempted manipulation or cornering of the markets, and discourage any tendency toward extensive over-speculation. In brief, it is the Secretary's purpose to undertake by the exercise of such authority as is conferred upon him by the terms of the grain futures act to bring about a condition where the quotations in future trading will more accurately reflect the prices incident to supply and demand. Secretary Jardine feels that this can be done by appropriate action on the part of the board of trade in the promulgation of rules calculated to prevent overspeculative trading. The suggestion was advanced by the Secretary that a rule lim-

iting the spread in daily quotations would have this effect.

The Secretary likewise clearly indicated that in the event of the failure on the part of the exchanges designated as contract markets to take some effective measures he would be obliged, as a matter of public interest, to suggest additional legislation giving to the department authority to meet the situation effectively.

Department Plans Cooperative Crop-Reporting Service with Porto Rico

Establishment of an official crop-reporting service for Porto Rico on sugar, cotton, tobacco, grapefruit, oranges, and pineapples is contemplated by a proposed cooperative arrangement between the Bureau of Agricultural Economics of the department and the Insular Department of Agriculture and Labor of Porto Rico.

Under the proposed plan of cooperation a representative of the insular department familiar with agricultural conditions on the island will be designated to act as a special representative of the United States Department of Agriculture and will gather and furnish by cable and letter periodical reports on the crops named.

The reports from Porto Rico will be included as a regular part of the crop-reporting program of the Bureau of Agricultural Economics if the plans now under way are brought to a successful conclusion. W. F. Callander, chairman of the crop-reporting board, has announced. Mr. Callander has just returned from Porto Rico, where he made a tour of the island with a representative of the Insular Department of Agriculture. He found that the Insular Department of Agriculture and Labor was already getting some data concerning sugar production, but that very little was being done along statistical lines for other crops.

Reporting upon his study of the agriculture of the island, Mr. Callander says: "Many new varieties of cane are being tried out in Porto Rico with considerable success. Several varieties with a much higher sugar content, as well as a greater tonnage, have been found and are being disseminated. There is little likelihood, however, of any material increase in the acreage devoted to sugar cane in Porto Rico. Practically all of the land suitable for growing cane is now planted to this crop. "Pineapples are proving to be one of the most profitable crops on the island at the present time, and extensive plantings are to be found. The shipping

season is on and large shipments are now coming to the United States.

"Grapefruit are grown extensively, mostly by continental Americans. There have been no new plantings for several years, however, as the crop has not been very profitable. It is yielding a fair return this season, however. Much of the orange production of the island is from wild trees, and the volume varies very much with the price. When the price is high, the natives go into the hills and bring down the oranges. When the price is low, the oranges are allowed to rot on the ground as the returns will not justify the expense of gathering and shipping.

"Tobacco is one of the most important crops in Porto Rico. Probably better than 60 per cent of the tobacco produced on the island is grown under contract by firms which also buy the balance of the island-grown crop. It is estimated that 20 per cent of the tobacco is made into cigars and cigarettes, the remainder being shipped in the leaf.

"The growing of Sea Island cotton in Porto Rico is being actively pushed. The insular department of agriculture is taking much interest in the crop. The Sea Island variety is the only one grown, and efforts are being made to keep the seed pure and improve production by the use of better methods of fertilization and cultivation. Yields as high as 1,500 to 1,900 pounds of seed cotton per acre are reported. The average, however, is rather low. About 1,900 bales of Sea Island cotton were ginned from the past season's crop."

SOIL SURVEYS APPROVED

The Secretary has approved the following surveys for the summer season of 1925. Field parties are now being shifted from the South to the North and the several projects will be taken up as rapidly as possible. Besides these new projects work will be continued in a number of projects begun last season but not completed before weather conditions made field work impossible.

State	County	State	County
California..	Chico area (part Butte County).	New York..	Erie.
Indiana....	Hancock.	North Carolina.	Burke.
Iowa.....	Switzerland.	Ohio.....	Rockingham.
Kansas....	Howard.		Butler.
Massachusetts.	Rossuth.		Scioto.
Michigan...	Warren.		Washington.
	Lafayette.	Oregon.....	Marion.
	Essex.	South Dakota.	Hyde.
		Kota.	
	Jackson.	West Virginia.	Monroe.
	Memominee.	Tuscola.	
	Washtenaw.	Wisconsin..	Manitowoc.
Nebraska...	Custer.		Trumpealeu.
	Lincoln.		

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

TO DESIGNATE U. S. HIGHWAYS

Highway officials of 11 Western States met at San Francisco May 15 to designate the important interstate roads in 11 States to be uniformly marked as United States highways. The meeting was the outcome of the initial conference of the Joint Board on Interstate Highways, composed of State and Federal highway officials, held at Washington April 20 and 21. It was the first of a series of regional meetings to be held during May and June at San Francisco, Kansas City, Chicago, Atlanta, New York, and Boston for the purpose of selecting the important interstate roads to be known as United States highways.

STUDY HOTEL BUYING OF FARM PRODUCE

New York City hotels annually buy approximately \$3,750,000 worth of fresh fruits and vegetables. Although this is less than 2 per cent of the total value of all produce handled by the New York City trade, the hotel trade is an important channel for the distribution of high-grade fruit and vegetables, according to a survey recently made by E. P. Crossen for the Port of New York Authority and the Bureau of Agricultural Economics of the department.

BUTTER SHORT WEIGHT HEAVILY FINED

A fine of \$2,800 was imposed recently under the Federal food and drugs act against the Trinidad Creamery Co., of Trinidad, Colo., by the Federal court at Pueblo, Colo., because of the shipment from Colorado to points in New Mexico and Texas of butter short in weight, according to a statement just issued by the officials of the Bureau of Chemistry of the department, charged with the enforcement of that act.

REPORT ON DAIRYING IN NEW ZEALAND

Production of dairy products in New Zealand has doubled during the past 10 years and may be doubled again in the coming 10 years, declares Dr. Theodore Macklin, of the University of Wisconsin, pointing out the increasing importance of New Zealand in the world dairy industry. Doctor Macklin recently re-

turned from New Zealand, where he made a study of the situation for the University of Wisconsin and the United States Department of Agriculture.

LOW COTTON YIELD IN ARGENTINA

The cotton crop which is just being picked in Argentina is estimated at 74,700 bales of 478 pounds, according to a cable just received by the department from the International Institute of Agriculture. While this estimate is above the 68,800 bales reported for last year, it is small, considering that the area planted, which, according to the first estimate, amounted to 259,000 acres, as compared with only 155,000 last year.

INSTITUTE ANNOUNCES LECTURES

Credit problems of cooperative associations will be discussed by nationally known authorities during the summer session of the American Institute of Cooperation, July 20 to August 15, at the University of Pennsylvania. Several officials of the department are scheduled to lecture at the various meetings. H. S. Yohe, of the Bureau of Agricultural Economics, will discuss Federal warehouse activities in relation to cooperative credit requirements. Among those discussing the development of the cooperative movement, its theory, application, and forms, are Doctor Taylor, Lloyd S. Tenny, and Chris Christensen, all of the Bureau of Agricultural Economics. A. V. Swarthout, also of that bureau, is among those to lecture on special problems of accounting. C. W. Warburton, Director of Extension, will discuss relations of farm organizations, Federal and State departments, to cooperative marketing organizations.

This institute has the active support of the department. The following letter of indorsement was sent by Secretary Jardine to the secretary of the institute:

"I feel that it is very important in connection with cooperative marketing that there should be an opportunity somewhere for real, fundamental, educational work covering the basic principles of cooperative marketing and a place where the many business problems involved can be discussed. It seems to me that the institute is a splendid idea and gives an opportunity for these things which I have mentioned. I am glad therefore to indorse the idea fully and want the department to cooperate to the limit of its ability. I do feel, however, that the responsibility of the institute should rest not with any governmental agency but with the farm organizations themselves. I understand

from my talk with you and from your letter of the 18th that this is the case. Rest assured, however, that everything I can do personally or any service that can be rendered by the staff in the department will be performed most willingly and wholeheartedly."

FLYING ANTS IN BUILDINGS

Each spring and fall numerous small flying ants (our native termites or white ants) emerge from the woodwork of buildings that have not been properly constructed. They have entered the woodwork of the buildings because somewhere there is untreated wood in contact with the ground.

Recently the Bureau of Entomology has been advocating slight modifications of the building regulations of various cities in efforts to prevent attack by these insects. No untreated wood should be laid on or in the earth, and untreated beams should have at least an inch of concrete between them and the earth. Where it is desired to put wood in direct contact with the earth it should first be impregnated with coal-tar creosote. If this is not practical there should be foundations of concrete or stone. No lime mortar should be used in brickwork in foundations of buildings, since termites are able to penetrate lime mortar after a few years' service. Such brickwork, either on or extending below the surface of the ground, should be faced and capped with concrete at least 1 inch thick.

Termites are not like ants, which can be killed by insecticides or fumigation. They must be prevented from getting into the building from the ground by means of their hidden burrows through untreated woodwork.

The department has received as many as 200 requests this year for help in getting rid of these flying ants. It is a great hardship for a householder to have to spend several hundred dollars one or two years after purchasing a building because of damage by termites. The fault is with the architect or contractor and the householder should not have to pay. By insisting on complete insulation of all untreated woodwork from the ground, insurance against attack by termites can be secured.

A number of important regulatory questions which it was hoped to dispose of prior to May 13, the date on which Mr. Campbell was to sail for Europe, were not gotten out of the way and his connection with them, in the course of their development, made it imperative that he remain in Washington.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Amendment to the Fiscal Regulations

MEMORANDUM No. 532.—May 11, 1925.—Paragraphs 2, 3, and 67 of the fiscal regulations of the department are hereby amended to read as follows:

2. *General authorizations by Secretary.*—The Secretary, on or before the beginning of each fiscal year, will issue a general letter of authorization to each chief of bureau, authorizing him during that year within the terms of the appropriations for his bureau and in conformity with law, the decisions of the Comptroller General, and the fiscal regulations (a) to direct employees of his bureau to perform travel within the continental United States, in Alaska, and in the parts of Canada or Mexico contiguous to the United States, and to allow per diems in lieu of subsistence, when desirable, at rates fixed in accordance with the provisions of paragraph 37; (b) to issue purchase orders for supplies and for job work in amounts fixed in accordance with the provisions of paragraph 64; (c) to issue authorizations for the publication of advertisements, notices, and proposals in such newspapers or trade journals as will best serve the needs of the United States; (d) to incur such other expenses as may be necessary properly to carry on the work of the bureau; and (e) to empower his subordinates to direct travel and incur necessary expenses within the limits of the authority conferred on him by his letter of authorization from the Secretary. (Laws 831, 838, 839, 841, 845, 936, 949, 954, 956.)

The changes are in (c) and (d). In (c) the former provision was that newspapers used for advertising must have been previously designated by the Secretary. The amendment authorizes the chief of bureau to select the newspaper or trade journal. This permission has been granted in the Secretary's annual authorizations to chiefs of bureaus for the last two years, and is now incorporated in the regulations. From (d) the parenthetical statement "(except for the purchase of passenger-carrying motor-driven vehicles)" has been omitted in the interest of simplification of the regulations. The restriction as to passenger-carrying vehicles appears in paragraph 64.

3. *Specific authorization by Secretary.*—The Secretary will issue specific individual letters of authorization in all cases involving (a) travel outside the continental United States, except travel in Alaska, and in the parts of Canada or Mexico contiguous to the United States; (b) travel and other expenses to be paid from the contingent fund of the department; (c) travel for the purpose of attending meetings or delivering lectures not otherwise provided for in the administrative regula-

tions; and (d) travel by persons not in the employ of the Government in connection with or furtherance of proposed or current activities of the department. (Paragraph amended; effective April 16, 1924.) (Laws 831, 834, 838, 839, 841, 845, 931, 936, 949, 954, 956.)

Subparagraph (e), which formerly concluded the regulation, has been omitted. It provided for authorization by the Secretary of advertisements in papers outside of those previously designated by him. Since bureau chiefs are now empowered to choose the newspaper, this provision becomes unnecessary.

67. *Purchases in excess of \$50.*—Except as provided by paragraph 68, no purchase of or contract for supplies or services other than personal services, when the aggregate amount involved exceeds \$50, shall be made until after advertisement a sufficient time previously for proposals respecting the same. Such advertisements shall be by one of the following methods: (a) In newspapers, upon specific authority (see par. 2), when the amount involved is \$2,500 or more; or (b) by formal proposals sent to three or more dealers, when the aggregate amount involved exceeds \$50 and is less than \$2,500. Either of these methods may be supplemented by posting notices in public places inviting competitive bidding, when it seems probable that better competition will be obtained thereby. Newspaper advertisement may be waived by the Director of Personnel and Business Administration upon recommendation and presentation of sufficient reasons by the chiefs of bureaus. All bids for supplies or services for use of the department in Washington must be obtained through the officer in charge of purchases and sales. Bids for supplies or services for the field shall, whenever practicable, also be obtained through the officer in charge of purchases and sales. (Amended; effective November 26, 1923.) (Laws 831, 834, 836, 839, 923, 981.)

The amendment authorizes the Director of Personnel and Business Administration, in his discretion, wherever adequate reasons exist, to waive the requirement of newspaper advertising in favor of other methods of obtaining competition in cases where the amount involved is \$2,500 or more.

Memorandum of Office of Personnel and Business Administration

Boards of Review of Efficiency Ratings

P. B. A. CIRCULAR No. 5.—April 30, 1925.—By direction of the Secretary the following are hereby designated to serve as members of the Boards of Review of the several bureaus and offices of the department for the six-month period ending November 15, 1925:

Office of the Secretary.—R. M. Reese, chairman; C. W. Boyle, J. M. Locknane, E. H. Bradley, Miss Cecelia Huneke. For Division of Accounts and Disbursements: W. J. Nevius, W. R. Fuchs, H. G. Arnold.

Office of Experiment Stations.—W. H. Evans, chairman; W. H. Beal, H. L. Knight, Miss F. A. Bartholow, Miss E. M. Hough.

Weather Bureau.—William Weber, chairman; G. M. Richards, Miss S. A. Beuter, W. R. Gregg, J. B. Kincer.

Office of Publications.—L. J. Haynes, chairman; C. E. Gafen, M. C. Merrill, Miss Dorothea H. Born, F. L. Zimmerman.

Extension Service.—J. A. Evans, chairman; J. W. Ilisox, F. W. Perkins, T. W. Harvey, Mrs. L. B. Fuller.

Bureau of Animal Industry.—U. G. Houck, chairman; A. W. Miller, A. J. Pistor, B. H. Ransom, E. W. Sheets, G. H. Russell, C. C. Carroll.

Bureau of Dairying.—L. A. Rogers, chairman, S. C. Thompson, Ernest Kelly, R. R. Graves, J. M. Kemper, jr.

Forest Service.—Edward A. Sherman, chairman, Edward E. Carter, Earle H. Clapp, Roy Headley, Theodore W. Norcross, Harry Irion, Claude M. Ballard.

Bureau of Soils.—R. O. E. Davis, chairman, C. A. Wolfe, G. W. Baumann, W. H. Ross, M. S. Anderson.

Bureau of Biological Survey.—W. C. Henderson, chairman, T. S. Palmer, Mrs. A. B. Morrison.

Bureau of Public Roads.—Thos. H. MacDonald, chairman, T. Warren Allen, S. H. McCrory, W. J. O'Leary, A. G. Bruce, C. D. Curtiss.

Bureau of Plant Industry.—K. F. Kellerman, chairman, R. A. Oakley, Haven Metcalf, H. A. Edson, B. T. Galloway, H. E. Allanson, C. R. Ball, Roland McKee.

Bureau of Chemistry.—W. W. Skinner, chairman, G. W. Hoover, Charles Thom, H. W. Redfield, C. C. McDonnell, S. A. Postle, Miss Agnes M. Nordeman, W. S. Frisbie, H. H. Walters.

Bureau of Entomology.—A. L. Quaintance, chairman, A. C. Baker, W. R. Walton, J. E. Graf, S. A. Rohrer, E. B. O'Leary.

Library.—Miss Claribel R. Barnett, chairman, Miss Emma B. Hawks, Miss Helen M. Thompson.

Bureau of Agricultural Economics.—Lloyd S. Tenny, chairman, W. F. Callander, H. W. Samson, H. R. Tolley, C. W. Kitchen, Miss Emily Clark, Frank Reed, F. J. Hughes (non-voting).

Bureau of Home Economics.—Dr. Louis Stanley, chairman, Miss Ruth O'Brien, Miss Rowena Schmidt.

Federal Horticultural Board.—George B. Sudworth, chairman, R. Kent Beattie, E. R. Sasser, L. A. Strong, R. C. Althouse.

Grain Futures Administration.—Rollin E. Smith, chairman.

Insecticide and Fungicide Board.—J. G. Shibley, chairman, C. C. McDonnell, Errett Wallace, J. K. Haywood.

Packers and Stockyards Administration.—Stephen Bray, chairman, George T. Ash, L. S. Hulbert, L. H. Camfield.

Fixed Nitrogen Research Laboratory.—S. C. Lind, chairman, J. A. Almquist, C. E. Schoenhals.

ANNUAL MEMORIAL DAY EXERCISES

Federal Post No. 824, Veterans of Foreign Wars, will hold its annual memorial service this year in the New National Museum auditorium, at 3.30 p. m., May 22, 1925. Secretary of Agriculture Jardine will make a short address, and the speaker of the day will be Dr. John Wesley Hill, chancellor of Lincoln Memorial University. The memorial service this year will be devoted in part to the memory of former Secretary of Agriculture Wallace. The United States Navy Band will provide the music. Veterans of all wars are invited to attend this service.

Proper notice to the employees of the department will be issued that those desiring to attend the services may be excused not later than 3.15 p. m., as it is necessary to open the services at 3.30 and close at 4.30 p. m.

The United States has approximately one-sixteenth of the world's population, but has within its borders about one-seventh of the food animals.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Why should milk be pasteurized? Does pasteurization affect the nutritive value of the milk?

Answer. Milk should be pasteurized to protect consumers from any possible danger of receiving milk carrying the organisms of infectious diseases. Proper pasteurization, that is, at 145° F. for 30 minutes, kills all disease-producing organisms in milk. Properly done, the process minimizes infections from cattle that have not been tested and found free from tuberculosis and infections from certain human diseases such as diphtheria, typhoid, scarlet fever, and septic sore throat.

The effect of heat on milk has been the subject of much scientific research. Experimental evidence up to the present time indicates that pasteurization at the temperature and for the time specified does not injure the chemical or nutritive values of the milk to an appreciable degree. It is possible that one vitamin in milk, the one which protects against scurvy, is injured or destroyed by pasteurization. This is of little importance except in the feeding of infants. To make up for any possible loss of this vitamin, orange or tomato juice is given regularly when pasteurized milk is used in infant feeding.

Question. What is the nature of the majority of automobile accidents?

Answer. The Bureau of Public Roads conducted a limited study of automobile accidents on the rural highways in the States of Montana, Oregon, and Washington during nine months of the period from September, 1923, to September, 1924. In this study 47.6 per cent of the accidents were classified as due to motor vehicles leaving the road; 33.4 per cent as collisions of two motor vehicles; 9.9 per cent as due to the running down of an equestrian or pedestrian; 3.9 per cent as collisions of motor vehicles and trains; 2.6 per cent as miscellaneous; 1.4 per cent as collisions of motor vehicles and other vehicles, and 1.2 per cent as unknown.

Question. What is the difference between an extract and a flavor?

Answer. From the standpoint of the Federal food and drugs act, the terms "extract" and "flavor" are not synonymous. The term "extract" implies an alcoholic product, and therefore flavoring products prepared with vehicles other than alcohol should not be labeled with the term "extract." These articles may be designated by the term "flavor" if they comply with the definitions and standards adopted by the Department of Agriculture and if they are labeled with some term such as "nonalcoholic" in direct connection with their names to show that the vehicle is not alcohol.

TEXTILE AND CLOTHING LISTS ISSUED

The response from workers in home economics and allied sciences to the "Selected List of Government Publica-

tions on Foods and Nutrition" made by the Bureau of Home Economics has led to a similar compilation on textiles and clothing. About 50 publications on textiles and clothing, representing the work of 9 Federal bureaus, have been cited and briefly annotated, and the prices at which they are obtainable from the Superintendent of Documents of the Government Printing Office quoted. Though some of these publications deal with production rather than consumption phases of textiles and clothing, the results can often be interpreted so as to be applied to home-economics questions, and may suggest problems for research directly from the consumer's standpoint.

The foods and nutrition list, originally issued in November, 1923, has been revised to January, 1925, and now includes references to 194 publications. About two-thirds of these are contributions of the Department of Agriculture, but many other branches of the Federal Government are represented. Both the foods and nutrition and the textiles and clothing lists are obtainable in mimeographed form from the Bureau of Home Economics.

DEPARTMENT RELEASES FIVE NEW FILMS

The Office of Motion Pictures has just announced the release of five new one-reel motion pictures. This brings the total number of educational films produced and distributed by the department to 206.

"Board Feet or Bored Timber" was prepared in cooperation with the Bureau of Entomology. This film tells the story of the wormhole borer, the pinhole borer, and numerous other insects which attack green logs and cured lumber; their habits and the methods of controlling the pests. It includes the pine sawyer, powder post beetle, lead cable borer, ash borer, ambrosia beetle, and other insect enemies of the cut log. Investigation has shown that holes cause \$40,000,000 damage annually. Holes lower the grade of the lumber and the wood fibers themselves are reduced to powder. Wood is damaged by some borers in the larval stage and by others in the adult stage; it is damaged when green and also when seasoned. Therefore many methods of control must be known and practiced. The picture recommends especially a fuller use of forest products and all possible prevention of damage. This film was made in Georgia, Mississippi, South Carolina, Kentucky, California, and Virginia.

"Good Turns for Our Forests" was prepared with the cooperation of the Forest Service to be shown primarily before groups of Boy Scouts. The film

describes Boy Scout work in the cause of forest conservation through an organized campaign to assist in preventing forest fires. It calls attention to the fact that forests give timber, water supply, power, beauty, and health; fire takes toll of timber, property, and life. Eighty per cent of our forest fires are caused by carelessness. The picture urges people to plant trees and more trees.

"The Road Goes Through" was prepared with the Bureau of Public Roads cooperating, and is one of a series dealing with western road building. Each new road offers new problems, and this picture shows how the road engineers overcome them with the aid of dynamite and steam shovels. Often solid rock must be cut through or a bridge built spanning a dry gully which is filled with a rushing torrent in the rainy season. Thus are built the modern roads of our national forest and Federal-aid highway systems.

The Weather Bureau cooperated with the Office of Motion Pictures in the production of two films, the first of which—"Exploring the Upper Air"—deals with the scientific and investigational side of the question of flying weather forecasts. Flights are made by Weather Bureau meteorologists in airplanes, dirigibles, and free balloons to study upper air conditions for weather forecasting. Samples of air are taken at various altitudes to determine its dust content and to compare it with that below. The latter experiments have proved, incidentally, that there is more dust above cities.

The second film produced under the direction of the Weather Bureau, entitled "Watching the Weather Above," demonstrates the application of Weather Bureau work to aviation. Truly remarkable pictures show all phases of aerial activity, including that of the Army, the Navy, the Air Mail Service, forest-fire airplane patrols, and airplanes in insect control. All these uses to which aviation is now being put have to depend for their success upon the weather and knowing its condition in advance. The Weather Bureau daily sends up kites with recording instruments to distances of 5 and 6 miles. When the kites are brought down after a certain length of time they give valuable data on weather indications. For the purposes of aviation forecasting the country is divided into 14 aviation forecast zones. Reports are sent out daily from these places, thus affording immeasurable help to the successful performance of aviation activities.

About two-thirds of all food animals slaughtered in the United States are federally inspected; the remaining one-third, which do not enter interstate or foreign commerce, are not subject to Federal inspection.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

GAME SAVED FROM EXTINCTION

Man has made such rapid strides in civilization and has advanced so far from the primitive state when there was ample game to supply his needs that the maintenance of game and other valuable forms of wild life throughout the world is becoming increasingly difficult. Under the changed natural conditions our game and fur-bearers can continue to exist only by careful guardianship by man in the form of proper legislation and game administration.

For some years the Biological Survey has fostered wild-life conservation through the enforcement of Federal game laws and the administration of refuges and under its guidance considerable sums of money are spent annually for the purpose. A vast literature on nature and the out-of-doors has grown up, and many organizations of local and national scope have been formed to protect our wild life. Newspapers and magazines are devoting more space to nature, and the public schools are giving courses in nature study. All this has resulted in a more widespread and active interest in wild-life conservation in the United States than in any other country.

At the Windy Cave Game Refuge in South Dakota and at the National Bison Range in western Montana, the buffalo are now increasing in numbers to an extent which justifies a practical utilization of the surplus. The Biological Survey is calling the matter to the attention of sportsmen and others who might be interested, to the end that persons wishing buffalo trophies or meat or even live animals may know where they can be had. Many of the surplus buffalo may in this way be preserved by transporting them to other suitable areas for restocking purposes or for exhibition in public parks and similar places. A limited number not suited to or required for these purposes are being slaughtered each year and used for meat. To many people who remember that not many years ago this species was in danger of becoming extinct, the present-day situation will come as a gratifying surprise, showing as it does that efforts to prevent the extinction of an American species are meeting with success.

Antelope also are receiving better protection in some places where there has been a rapid diminution in their numbers. However, in areas where they

are not accorded special protection they are bound to decrease. The recent census of antelope in North America, made by the Biological Survey, shows that there are now about 28,000 of these animals surviving on this continent, about a quarter of them in a single State—Wyoming. Some of the other Western States still have a number within their borders, due in large part to the continuous close season maintained on antelope throughout most of their range. Under proper protection the numbers of these animals should increase in favorable localities and furnish a surplus which can be utilized just as the buffalo are now.

On the Kaibab Plateau of northern Arizona native deer have increased under protection to 30,000 or more, nearly double the number the forage production of this area can be expected to support. Unless some disposal can soon be made of the surplus numbers there is danger that many will perish from starvation. To pasture two animals where there is food for only one might endanger the entire herd.

Thus it will be seen that proper guardianship and protection of our native wild life includes not only the maintenance of an adequate supply of breeding stock but also the right disposition and provision for utilization of surplus animals when any species becomes overabundant.

WITH EXTENSION FORCES

FARMERS BUY MANAGEMENT SERVICE

The three-year farm management service for which 240 farmers of Woodford, Tazewell, McLean, and Livingston Counties, Ill., cooperatively contracted the first of this year, is a new phase of cooperation to them but not a new phase of farming, as most of them have had this service through their county agents for at least one year. Some of the men in Woodford County have been keeping farm accounts each year since 1916 when account books for a number of farms were opened with the assistance of the county agent, then M. L. Mosher, and H. C. M. Case, assistant in farm organization and management at the State college of agriculture. While similar work was undertaken in several other counties about the same time, that in Woodford County has continued without break, and the present undertaking is in a great measure due to the satisfactory results those farmers have had from their farm account work.

A plan, carefully devised for the work by Mr. Case and Mr. Mosher, has been generally followed. Simple, uniform account books were furnished each year by the county extension organization. All-day meetings were held during January, in eight or nine points of the county, at which the books were opened. After the first year the farmers closed their books for the previous year at this meeting or individually and these old books were turned over to the county agent. A visit was made to each farmer keeping accounts during early summer to assist in clearing up points not understood.

Books for the previous year were summarized with the assistance of the agricultural college. Each farmer later received a copy of a county summary showing the record made by his own farm in about 50 different items, compared with those made by the 10 best farms, the 10 poorest, and the average for the county. In most cases this summary was given to the farmer personally by the agent, either at the farm or the agent's office, so that they could study it together.

Parts of the summaries were presented in chart form by P. E. Johnston, who was county agent for the past two years. Outlines of a series of thermometers were drawn, one for each of such items as rate of interest earned on the investment; bushels of corn, oats, and wheat per acre; returns per hundred dollars invested in cattle, hogs, and poultry; the crop acres worked per man and per horse, and the expense per hundred dollars of gross income.

As he talked over a farmer's summary, the agent would fill in each thermometer up to the point which represented the standing of that farm, so that at the end of the interview the farmer could see by glancing at his chart where his farm was above, below, or on an average with the county summary.

For a number of years a farm management tour has been an annual event. On this occasion five or six farms where some definite fundamental principle in management could be clearly demonstrated were visited.

These account demonstrations have been increasing for several years, requiring more and more of the agent's time and that of the State staff. As the work had grown heavier in other counties also, it was felt that some arrangement whereby one person could give his entire time to such service would be advisable. Farmers of these four counties have accordingly contracted for the employment of M. L. Mosher to render this service for three years. The whole program will be carried out in cooperation with the college of agriculture.

During 1924 the estimated number of food animals slaughtered in the United States reached the highest peak in history, totaling 119,980,500 or about 1.1 animals for every man, woman, and child of the population.

BRIEF REVIEWS OF NEW BULLETINS

Truck-Farm Labor in New Jersey. 1922. By Josiah C. Folsom, assistant agricultural economist, Bureau of Agricultural Economics. Pp. 38, figs. 12. April, 1925. (Department Bulletin 1285.) Price, 10 cents.

Steady employment and better living conditions for farm laborers and their families are necessary to attract capable employees to farm work, declares the department, which has recently made a study of the farm-labor situation on 375 representative truck farms in New Jersey. The complete results of the survey are contained in this publication. The bulletin is designed to be of value to farmers generally engaged in types of farming similar to those in New Jersey, as well as to employment agency officials and students of sociological problems.

Behavior of Cotton Planted at Different Dates in Weevil-Control Experiments in Texas and South Carolina. By W. W. Ballard, senior agronomist, office of crop acclimatization and adaptation investigations, Bureau of Plant Industry. Pp. 44, pls. 5, figs. 10. April, 1925. (Department Bulletin 1320.) Price, 15 cents.

Early and later plantings of cotton were made in several localities to determine the extent of boll-weevil damage resulting from the different planting dates. Both in South Carolina and Texas later planted cotton yielded approximately as well as early planted cotton. While the results are not conclusive, it appears that later planting of cotton might be practicable as a method for avoiding weevil injury for communities or districts where the farmers could agree upon a simultaneous planting date. The need for closer spacing of plants when cotton is planted later was indicated by the tendency of the plants to grow larger than early planted cotton. The results of the trial tests are described in this bulletin.

Work of the Umatilla Reclamation Project Experiment Farm in 1920, 1921, 1922. By H. K. Dean, farm superintendent, office of western irrigation agriculture, Bureau of Plant Industry. Pp. 24, figs. 6. April, 1925. (Department Circular 342.) Price, 5 cents.

The work of this farm has to do with the establishment of permanent and profitable agriculture on sandy soils under irrigation. Almost every possible crop has been tried at one time or another by the farmers. The experiment farm has tested a large number of crops and is continuing to test crops which may be promising. It was thought at first that the horticultural industries would predominate, but on account of extremely low winter temperatures the trees have been badly damaged, and spring frosts have also seriously reduced the fruit crops. As a result, orchard fruits have been found unprofitable except in certain small areas. During recent years, and especially during the period covered by this report, the tendency has been to specialize on a few crops which have proved profitable and to feed these crops to livestock on the farms.

ADDITIONAL PUBLICATIONS

Shipments and Unloads of Certain Fruits and Vegetables, 1918-1923. Prepared by the Bureau of Agricultural Economics. Pp. 110. April, 1925. (Statistical Bulletin 7.) Price, 15 cents.

The Oviposition Response of Insects. By Charles H. Richardson, entomologist, fruit insect investigations, Bureau of Entomology. Pp. 18. April, 1925. (Department Bulletin 1324.) Price, 5 cents.

Journal of Agricultural Research. Vol. 30, No. 2. January 15, 1925. Contents: Classification of the Scale Insects of the Subfamily Orthezinae (K-144.) By Harold Morrison.—A Test of Raw Onions in the Diet as a Control Measure for Worms in Dogs. (A-92.) By M. C. Hall, J. E. Schillinger, and E. B. Cram.—Study of the Life History and Ecological Relations of the Stem of Maize. (G-472.) By Alden A. Potter and Leo E. Melchers.—Further Studies on the Toxicity of Juice Extracted from Succulent Onion Scales. (G-443.) By J. C. Walker, Carl C. Lindegren, and Freda M. Bachmann.—Bothy, a Disinfectant for Citrus Fruit. (G-372.) By William R. Barger and Lon A. Hawkins.—The Occurrence of Copper, Manganese, Zinc, Nickel, Cobalt in Soils, Plants, and Animals, and Their Possible Functions as Vital Factors. (K-17.) By J. S. McHargue. Pp. 97-196, pls. 3, figs. 47. Price, 20 cents.

Vol. 30, No. 3. February 1, 1925. Contents: Anatomy of the Vegetative Organs of Sugar Cane. (G-48.) By Ernst A. Schwagerl.—The Quantitative Determination of Xanthophyll by Means of the Spectrophotometer and the Colorimeter. (G-475.) By F. M. Schertz.—Contribution to the Chemistry of Decomposition of Proteins and Amino Acids by Various Groups of Microorganisms. (N. J-13.) By Selman A. Waksman and S. Lomanitz.—Biometric Comparison of the Urediniospores of Cronartium ribicola and Cronartium occidentale. (G-439.) By Reginald H. Colley. Pp. 197-291, pls. 25, figs. 20. Price, 20 cents.

NOTES.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the *Journal* was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the *Journal* has since been published semimonthly. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable changes with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic, and 25 cents foreign price.

List of Workers in Subjects Pertaining to Agriculture in State Agricultural Colleges and Experiment Stations, 1924-1925. By Mary A. Agnew, Office of Experiment Stations. Pp. 66. March, 1925. (Miscellaneous Circular 36.) Price, 15 cents.

Monthly Weather Review. Volume 53, No. 2. February, 1925. Pp. 49-98, pl. 1, figs. 9, charts 13. Special articles: Coronas and Iriscent clouds. By C. F. Brooks.—Using Weather forecasts for predicting forest-fire danger. By H. T. Gisborne.—The forest-fire season at different elevations in Idaho. By J. S. Larsen.—A preliminary study of effective rainfall. By J. P. Voorhees.—Rain-gage of standard commercial materials and parts. By E. C. Kadel.—The criteria of a cold winter. By A. J. Henry.—A remarkable two-theodolite pilot-balloon series. By W. C. Haines.—Fruit-spray and harvest-weather forecast work of the Weather Bureau in New York State. By E. B. Calvert.—The climate of Trinidad. B. W. I. By P. E. James.

NOTE.—The *Monthly Weather Review* is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of colleges and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to

officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Plant Industry. No. 8. April, 1925. Pp. 2. April 20, 1925. Price, 5 cents.

Federal Horticultural Board. No. 82. January-March, 1925. Pp. 27. May, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of May 4-9, 1925. Copies of these publications may be obtained from the stations issuing them.

Fertilizing citrus trees in California. R. W. Hodgson. (California Sta. Circ. 283, pp. 24. Apr., 1925.)

The spore discharge of the apple scab fungus in Delaware. J. F. Adams. (Delaware Sta. Bul. 140, pp. 16, figs. 4. Apr., 1925.)

Analyses of commercial fertilizers. H. E. Curtis, H. R. Allen, and L. Gault. (Kentucky Sta. Bul. 251, pp. 369-485. Dec., 1923.)

Commercial feeding stuffs in Kentucky in 1924. J. D. Turner, H. D. Spears, and W. G. Terrell. (Kentucky Sta. Bul. 257, pp. 30. Feb., 1925.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, Jr. (Massachusetts Sta. Met. Bul. 436, pp. 4. Apr., 1925.)

Preliminary pecan experiments. F. Garcia and A. B. Fite. (New Mexico Sta. Bul. 145, pp. 18, figs. 6. Jan., 1925.)

Reymann Memorial Farms. H. G. Knight. (West Virginia Sta. Bul. 194, pp. 20, figs. 19. Feb., 1925.)

ISSUE NEW SERIES OF BIBLIOGRAPHIES

Bibliographies prepared in the Bureau of Agricultural Economics have since January 1. been issued in the new mimeographed series entitled "Agricultural Economics Bibliographies." Four numbers have so far appeared, as follows: (1) agricultural economics; (2) flour milling and bread making; (3) a beginning of a bibliography of the literature of rural life; (4) price spreads.

These bibliographies are selective and not necessarily comprehensive. The idea in presenting this series has been to make bibliographical work in progress available as promptly as possible. Revisions of the lists, brought up to date, will be issued from time to time under the same title and series number. In this series will also be put material which may later be combined and issued as a comprehensive bibliography. As indicative of this type of work, a bibliography on the cost of production of agricultural commodities is in process of preparation. Two sections, one on sugar and one on milk, have already been issued in the library supplement to the B. A. E. News. It is planned to put these sections into the bibliographical series when they are revised, and it is hoped that when a sufficient number of commodities have been covered the sections may be combined and issued in the series "Bibliographical Contributions of the United States Department of Agriculture Library."

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Dickerson, D. F., and Eggers, F. C. General agriculture. An outline course for use in public schools. Atlantic, Ia., Hawkeye printing company, 1925.
- Eliot, H. M. The elementary principles of farm management. Ann Arbor, Edwards brothers, 1923.
- Kelsey, D. S. Rural guide. Boston, Atlantic monthly press, 1925.
- Mason, Cyrus. The oration on the 13th anniversary of the American institute, 2d ed. New York, 1840.
- Mead, Elwood. Agricultural development in Palestine. London, Zionist executive, 1924.
- Roemer, Theodor. Der feldversuch. 2. auf. Berlin, 1925. (Arbeiten der Deutschen landwirtschafts-gesellschaft, hft. 302.)
- South Africa. Railways and harbours board. Farming opportunities. [Rev. ed.] Cape Town, 1922.

HORTICULTURE

- Bester, R. A. Pineapple culture in South Africa. Johannesburg, Specialty press of S. A. [1922-7]
- King, L. Y. Chronicles of the garden. New York, Scribner, 1925.
- King, Mitchell. The history and culture of the olive, Columbia, S. C., 1846.

DOMESTIC ANIMALS

- Curtis, R. S. The fundamentals of Livestock judging and selection. 3d ed. Philadelphia, Lea & Febiger, 1925.

DAIRYING

- Richmond, H. D. The laboratory book of dairy analysis. 3d ed. London, C. Griffin, 1925.

CITY PLANNING

- Kern, R. R. The supercity. A planned physical equipment for city life. Washington [Binghamton, N. Y., Vail-Ballou press] 1924.

ROADS

- Fenelon, K. G. The economics of road transport. London, G. Allen & Unwin, 1925.
- Green, J. W., and Morgan, H. P. H. Highway engineering. London, St. Bride's press, 1924.

BIOLOGY

- Kammerer, P. P. R. The inheritance of acquired characteristics. New York, Boni & Liveright, 1924.
- Pearl, Raymond. The biology of death. Philadelphia, Lippincott, 1922.
- Punnett, R. C. Sex-linkage for egg production and table poultry. London, Daily mail, 1925.

ZOOLOGY

- Fletcher, T. B., and Inglis, C. M. Birds of an Indian garden. Calcutta, Thacker, Spink, 1924.
- House, C. A. The Yorkshire canary. London, "Cage birds," 1925.
- Sharp, D. L. The spirit of the hive. New York, Harper, 1925.

BOTANY

- Artzschwager, E. F., and Smiley, E. M. Dictionary of botanical equivalents. 2d ed. Baltimore, Williams & Wilkins, 1925.
- Kitzberger, L. F. Rostliny medonosné. v Praze, A. Neubert, 1924.
- Küster, Ernst. Botanische betrachtungen über alter und tod. Berlin, Borntraeger, 1921. (Abhandlungen zur theoretischen biologie, hft. 10.)
- MacDougal, D. T. Reversible variations in volume, pressure, and movements of sap in trees. Washington, 1925. (Carnegie institution of Washington. Publication no. 365.)
- Marchadier, A. L., and Goujon, A. Notions pratiques de toxicologie végétale indigène. Paris, Doin, 1924.

ECONOMICS

- Coman, Katharine. Economic beginnings of the far west. New York, Macmillan, 1925.
- Day, Clive. A history of commerce. Rev. New York, Longmans, Green, 1924.

- Kennedy, J. C. Wages and family budgets in the Chicago stockyards district. Chicago, University of Chicago press, 1914.
- Protedicos, D. E. Greece, economic and financial. London, Eyre and Spottiswoode, 1924.
- Seelhorst, Conrad von. Das zusammenwirken von betriebsorganisation und betriebsdirektion auf den betriebsverfolg. Berlin, P. Parey, 1904.

TRAVEL

- Mason, M. H. The Arctic forests. London, Hodder and Houghton, 1924.

REFERENCE BOOKS

- Benham, W. G. Book of quotations, proverbs, and household words. London, Ward, Lock & co., 1924.
- The college blue book. By Huber William Hurt. v. 1. Chicago, College blue book, 1923.
- Macmillan, firm, publishers, New York. The author's book. New York, 1923.

PERIODICALS CURRENTLY RECEIVED

- La Gironde agricole et viticole. no. 1- Jan., 1925- Bordeaux.
- Industrial chemist and chemical manufacturer (monthly). v. 1- Feb. 1925- London.
- Journal of personnel research (monthly). v. 4, no. 1- May, 1925- Baltimore.
- Kryptogamische forschungen. no. 4- Apr. 1919- München.
- Michigan agriculturist (monthly). v. 4, no. 4- Jan., 1925- East Lansing, Mich.
- Timely suggestions for hog growers (bi-monthly). v. 1, no. 4- July, 1924- Knoxville, Tenn.

CIVIL-SERVICE ANNOUNCEMENT

Head dairyman, \$1,500. A vacancy at the Iberia Experiment Station, for duty at Jeanette, La., at \$1,500 a year, with unfurnished house, and vacancies in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examination. The duties of the appointee will consist of dairy herd management, with the responsibility for the feeding and care of all classes of animals on the dairy farm, for the careful carrying out of experiments, quality of milk produced, and general condition of dairy animals and buildings. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

(Continued from page 1)

WESTERN STOCKMAN TO HEAD P. AND S.

tion. He has been active in the Farm Bureau and in various livestock associations, being a member of the following: Utah State Farm Bureau Association, American Association of Animal Production, Utah Wool Growers' Association, Utah Cattle and Horse Breeders' Association, National Wool Growers' Association, National Livestock Association, and Western Livestock Sanitary Association. He is also a member of the Rotary Club.

Mr. Caine will take up his duties with the Packers' and Stockyards' Administration within a few days.

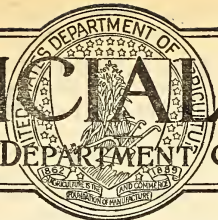
The smallest slaughter of food animals last year in the United States was for goats, of which 92,300 were converted into meat; but goats showed a much larger per cent of increase in slaughter over the previous year than the other classes of food animals.

Articles by Department Workers in Current Publications

- Albus, W. R., and Geo. E. Holm (Dairying). The effect of surface tension on the growth of *Lactobacillus bulgaricus* and *Lactobacillus acidophilus*. Proc., Soc. for Exp. Biol. and Med., vol. 22, pp. 337-338, March, 1925.
- Almy, L. H. (Chemistry). A method for the estimation of hydrogen sulfide in proteinaceous food products. Journ. Am. Chem. Soc., vol. 47, No. 5, May, 1925.
- Barnes, W. C. (Forest Service). The inventive genius at work; the late Dr. Alexander G. Bell's experiments with multipinned twin-bearing sheep. Field Illustrated, April, 1925.
- Brauns, D. H. (Chemistry). Optical rotation and atomic dimension. IV. Journ. Am. Chem. Soc., vol. 47, No. 5, May, 1925.
- V. Optical rotation and atomic dimension. V. Journ. Am. Chem. Soc., vol. 47, No. 5, May, 1925.
- Denton, M. C. (Home Economics). Bargain-hunting at the green grocer's. McCall's Magazine, vol. 52, No. 9, June, 1925.
- Elbert, L. F. (Forest Service). Opportunities in the Appalachians for the practice of forestry. Southern Lumberman, April 25, 1925.
- Gibbons, W. H., and H. M. Johnson (Forest Service). Oregon-Washington Furniture Industry. The Timberman, April, 1925.
- Holphenstein, E. K. Jr. (Forest Service). The useful ready-cut house. Field Illustrated, April, 1925.
- Rose, Albert C. (Public Roads). Novel highway measuring wheel. Highway Engineer and Contractor, vol. 12, pp. 47-48, April, 1925.
- Schmidt, C. Rowena (Home Economics). The psychology of child nutrition. Journal of Home Economics, vol. 17, No. 5, pp. 260-264, May, 1925.
- Shannon, R. C. (Entomology). The syrphid flies of the subfamily Ceriodinae in the U. S. National Museum collection. Insector Insectaria Menstruus, vol. 13, Nos. 1-3, pp. 48-52, January-March, 1925.
- Sherman, Caroline B. (Agric. Economics). Specialization in agriculture. American Cooperative Journal, May, 1925.
- Smith, E. B. (Agric. Economics). Forecasting the acreage of cotton. Amer. Statistical Journal, March, 1925.
- Smith, E. F. (Plant Industry). Le crown-gall. Revue Pathologie Végétale et Entomologie Agricole, vol. 11, pp. 219-228, October-December, 1924.
- Snyder, T. E. (Entomology). Termites in buildings. Science, vol. 61, No. 1580, pp. 380, April 10, 1925.
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., MAY 27, 1925

No. 21

SECRETARY ADDRESSES TOBACCO MERCHANTS

Stresses Cooperation of Department in Solving Problems of Pro- duction and Marketing

Asserting that most people who talk about tobacco think of it in the light of habit, recreation, and enjoyment, Secretary Jardine, in an address before the Tobacco Merchants' Association at Washington on May 15, went on to say that tobacco in America represents a great deal more than merely these three things.

"Tobacco is a major source of income for American farming," said the Secretary. "I have a lot of respect for an industry which in 1919 enriched domestic agriculture to the extent of a half billion dollars, divided among 450,000 farms in seven-eighths of the States of the Union. As a farm enterprise tobacco is exceeded in value only by corn, hay, cotton, wheat, and potatoes.

Industry of Vital Interest to Department

"I come to you representing a Government department that has a vital interest in your industry. The Department of Agriculture is interested in every significant agricultural endeavor. It seeks in each one of these more efficient and more orderly production, and more efficient and more orderly marketing. These are the keystones of success in any agricultural enterprise. To this tobacco is no exception. In these directions the Department of Agriculture wants to be of every possible help to the tobacco industry.

"Let us take a glance at some of the production and marketing problems facing the tobacco producer; first, as to efficient production. Our tobacco land to-day is producing no more than it did years ago. On the other hand, the producer is faced with distinctly higher costs. Land has greatly increased in

value. Costs of operation have risen. Transportation charges present a perplexing problem. Fortunately, prices have increased enough to bring a profit to the producer, but the fact that the unit production is remaining at a standstill presents a problem which challenges the thought of all interests represented in this industry. In addition to this problem, there is the vital economic necessity of maintaining the correct balance between supply and demand for each distinctive type of tobacco, since, ordinarily, an adequate supply of one type may not be made good by a surplus of another type. It is worthy of mention that the demands of the consumer are not limited to intrinsic merit, but undue stress is often laid on the appearance of the finished product—as, for example, the shade of color of the cigar wrapper—thus further increasing the difficulties of fully meeting trade requirements. It seems to be true, even, that the tastes and fancies of the consumer change from time to time. The department is endeavoring to aid in the solution of those important production problems. * * *

Benefits Derived from Warehouse Act

"Of equal importance are the problems of more orderly marketing. The adjustment of supply to demand constitutes a problem of the first magnitude to tobacco producers. Tobacco marketing has concerned the department from several standpoints. * * *

"Under the administration of the United States warehouse act regulations for tobacco warehouses have been issued and more than 262 tobacco storage warehouses have been licensed. * * *

"Under authority of the warehouse act, grades have been worked out for 20 of the leading types of American-grown tobacco. These 20 types cover approximately 80 per cent of the total American production. This system of grading appears to have met with the approval of the trade, and the grades have been voluntarily put into operation by a number of tobacco growers' organizations.

(Continued on page 8)

DEPARTMENT CHEMISTS HELP DYE INDUSTRY

American Chemical Society Reports Discoveries Have Made Fadeless Dyes Cheaper

The discoveries of the chemists employed in the color laboratory of the Bureau of Chemistry of the department have been an important factor in freeing the millions of cotton users in America from foreign domination of fadeless dyes, according to a report read at a recent meeting of the American Chemical Society by R. Norris Shreve, of New York, chairman of the division of dye chemistry of the chemical society.

Dye intermediates, the report declares, are now being produced in the United States at prices below their cost in Germany. Savings aggregating millions of dollars to users of cotton fabrics have resulted from the development of cheaper intermediates for dye manufacture. These intermediates particularly necessary for the vat dyes are, it is said, actually being exported to Europe.

Permanent Colors Now Available

"The American manufacturers of vat dyes," says the report, "now have at their disposal cheap and pure products with which to build up the complex molecules characteristic of these colors, which give the brightest shades and the most permanent colors yet made. Every household in the land has been affected by this change.

"The rapidly fading colors of 1916 and 1917 and the waste entailed in replacement cost for clothes and draperies have given way to sun-fast, no-fade clothes and materials.

"These are possible," the report adds, "because of the vat dyes, and the American vat dyes are with us because of the development of cheap aluminum chloride and phthalic anhydride."

The process for making phthalic anhydride was worked out in the Color Laboratory of the Bureau of Chemistry. This laboratory was organized in 1916 to assist in the development of an American dye industry. The need for such an industry was never fully appreciated until the European war cut off this country from its German supply of intermediates. More than twenty processes for making intermediates and other products used in the dye industry have been developed, patented, and dedicated to the public by the staff of the Color Laboratory. The taking out of a public-service patent on a process insures that the process may not thereafter be used for the exclusive benefit of one person or one concern.

Phthalic anhydride, which was previously obtained only from Germany, is used in the manufacture of more than 300 different dyes, drugs, and chemicals.

The United States now produces about 96 per cent of the dyes used in this country.

FARM MANAGEMENT CONFERENCE

A conference on farm management extension work was held at Sioux City, Iowa, the week of May 4, attended by agricultural extension directors and farm management demonstrators representing twelve Central and one Southern State, and members of the department extension service and Bureau of Agricultural Economics.

The purpose of the conference was to discuss farm management extension plans and methods as related to such projects as farm accounting, utilization of timely economic data, community and county extension programs, various methods of extending the type of service to reach an increasing number of people, and some measure of the results of farm management work.

Emphasis was placed upon such matters as the present needs and trends of farm management extension service, the importance of maintaining proper relationships with other subject-matter workers, preparing research results for extension use, and methods of developing strong farm management programs for county and community needs. Among the recent developments in farm management extension has been a broadening of subject matter to meet more adequately the farmer's farm management problems, to render more efficient aid to the county agent in adapting his program to the changed economic conditions existing today, and improvements in methods of extension to reach effectively the largest number of farmers.

The lines of work which will be given emphasis in farm management programs in the Corn Belt region are: (1) Farm organization and farm accounting; (2) cost accounting on particular enterprises; (3) boys' and girls' farm management clubs; (4) farm accounting in rural schools; (5) dissemination of timely economic material; and (6) aid in developing State, county and community extension programs. These lines of activity will be projected through meetings, schools, tours, bulletins, news articles, and contact with demonstrators through group and individual follow-up methods. From the results of research, more subject-matter lessons or lecture outlines will be prepared for the use of county agents in extending this type of work.

F. W. Peck, director of extension in Minnesota, was chairman of the conference, and Ralph F. Taber, farm management demonstrator of Ohio extension service, was secretary. The States represented were Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Alabama.

GERMAN OFFICIAL VISITS DEPARTMENT

Dr. Gustav Oldenburg, an official of the German Ministry of Agriculture, who has administrative charge of agricultural instruction and research work, visited the department during the week of May 11. Doctor Oldenburg plans to spend about five months in the United States studying administrative methods employed in the teaching and investigational work of the department and the State agricultural colleges, traveling under the auspices of the International Education Board. He will visit representative agricultural institutions and production areas in a number of States, traveling first down the Atlantic coast, crossing into Cuba and Mexico, going through the Gulf States to the West, up the Pacific coast to the Northwest, returning through the Central States to Canada and the Northeast, and sailing from New York in September for his home.

The Bureau of Agricultural Economics is making arrangements with the Army Air Service for the use of airplanes in North Carolina to make observations of cotton-crop conditions during the coming summer. The experiments thus far conducted by the Crop Reporting Board with this method of forecasting have been very satisfactory, as a wide territory can be covered in a short time. To the observer the fields appear to move in a slow panorama below the plane.

Bureaus Cooperate in Estimating Loss Caused by Sugar Cane Pest

For the second time the Bureaus of Agricultural Economics and Entomology have cooperated in estimating the damage done to sugar cane in Louisiana caused by the sugar-cane moth borer. Their estimates made a year ago for the crops of 1922 and 1923 were surprisingly close, and as they worked altogether independently, with widely different methods, their results made quite an impression on the agricultural public.

An estimate of the loss for 1924 has now been obtained, and it is 13 per cent of the crop. For 1923 the loss was 23 per cent, for 1922 it was 17 per cent, and the average loss has been determined as 19 per cent. The loss for 1924 is therefore quite low, and one reason for this is that the cold of the previous winter killed borers in exposed pieces of stubble and scraps of cane left about the plantations, as was determined by the Bureau of Entomology. The prolonged drought of the summer may also have reduced the numbers of borers.

It is interesting to note that the Bureau of Entomology estimated from its own field examinations, while the Bureau of Agricultural Economics estimated from answers to questionnaires sent to sugar planters. Until the final results were available one bureau had no idea of the figure reached by the other bureau. When the two figures, obtained independently, were compared at last they were found to agree within less than half of 1 per cent. The Bureau of Agricultural Economics was able to check its figures by the answers to various skillfully worded questions, and in every case the results indicated that a correct estimate had been made.

By boring through the stalks, not only of sugar cane but also of corn, broom-corn, sorghum, and related plants, the large larva or "worm" of the sugar-cane moth borer does enormous damage annually in the States of Louisiana, Texas, Florida, and to some extent in Mississippi.

The work of the Bureau of Entomology indicates that corn grown on a sugar plantation adds greatly to the damage, the borer breeding rapidly and in great numbers in the cornstalks and later leaving them and attacking the sugar cane. The bureau also finds that soaking the seed cane in water of ordinary temperatures for 72 hours kills the borers in the stalks and hastens the germination. A Louisiana planter is trying this treatment on a large scale.

More swine than any other kind of animals were slaughtered last year in the United States, the total exceeding 80,000,000.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

HIGHWAY BOARD TO MEET IN CHICAGO

Highway officials of Wisconsin, Michigan, Indiana, Illinois, Ohio, and Kentucky will meet in Chicago on June 3 to designate the important interstate roads in these States which will be uniformly marked as United States highways. The meeting is the outcome of the initial conference of the Joint Board on Interstate Highways, composed of State and Federal highway officials, which was held in Washington April 20 and 21. Regional meetings were held in San Francisco on May 15 and in Kansas City on May 27, and the Chicago meeting will be followed by meetings in Atlanta, New York, and Boston for the purpose of selecting the important interstate roads which, after coordination as between the various sections, will be known as United States highways.

ADOPT STANDARDS FOR BALED WRAPPERS

Standard specifications for bagging and ties used on baled cotton at gins were adopted at a conference of cotton shippers and manufacturers of bagging and ties held at the department at Washington, May 18. This action paves the way for a standard cotton tare of 21 pounds in place of the irregular tare now in use, which has been a tremendous economic waste in the cotton industry.

SIMPLIFY TOBACCO CLASSIFICATION

Reduction of the several hundred indiscriminate type names for tobacco now in use in the industry to 27 definite types, is urged by the department. A proposed classification of types has been prepared by the department to eliminate the confusion that now results from the large number of type names in use.

PUSH WORK ON WOOL STANDARDS

Use of standard grades for raw wool and development of methods of determining the grade of wool in yarns are being pushed vigorously by the department in an effort to help place the industry on a standardized basis. The use of wool standards is expected to bring about closer relationship between producers and those engaged in the

handling, selling, and manufacturing of wool, and generally to improve marketing methods.

EXPECT SMALLER EARLY PEACH CROP

The early peach crop in 10 Southern States this year will be somewhat smaller than the large crop of last year, according to the May 1 condition report of the department, which places the condition of the crop at 69.2 per cent of normal as compared with 78.6 per cent last year.

URGE FEWER CONTAINERS FOR CELERY

Need for a standard pack of celery, and elimination of many of the odd sizes of crates now in use in some of the leading celery-growing districts, is brought out in a recent investigation by the department. Michigan, which is one of the oldest celery sections of the country, is using 24 different sizes and styles of crates for packing celery, whereas 5 sizes would be enough, and only 3 sizes, should a standardized pack be developed, the department says.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Montana.—R. E. Cameron has been appointed county agent of Cascade County to succeed F. E. MacSpadden, resigned.

Nevada.—Thos. R. King, district agent for Lander, Eureka, and White Pine Counties has resigned, and Claude R. Townsend has been appointed district agent for Eureka and White Pine Counties. Joseph W. Wilson, county agent for Humboldt County, was appointed district agent for Humboldt and Lander Counties, effective May 1. Albert J. Reed, district agent for Churchill and Pershing Counties, has been appointed county agent for Pershing County.

Vermont.—E. H. Kelley, county agent of Washington County, has resigned. Nellie E. Clogston, county club agent at large, has been transferred to Windham County, to take the place of M. Pearl Berry, resigned. Edna E. Slaiger, home demonstration agent at large, has been transferred to Lamoille County.

Arkansas.—R. L. Anderson, who has been employed by the extension service in predatory animal control work, has resigned to accept a position with the Bureau of Biological Survey in New Mexico. E. A. Kerr, of Tennessee, has been appointed county agent in Randolph County to succeed Lydle P. Smith, resigned to become manager of a large canning plant organized in the county.

Washington.—L. R. Lounsbury has resigned as agricultural editor in the college to enter private printing business, and Mrs. Ruth A. McGlade has been promoted to the vacancy.

Wisconsin.—F. G. Wilson has been appointed extension specialist in forestry. R. A. Kolb, after 11 years of service, has resigned as agent in Taylor County, and is succeeded by Dan Shaffer, transferred from Iron County, whose position has been filled by the appointment of W. J. Helli. W. H. Button has resigned as agent in Washington County and will be transferred June 1 to similar work in Dane County.

Wyoming.—Ross Sheehy, formerly assistant agent in Albany County, has been appointed agent in Big Horn County. W. H. Carrington, former agent in Uinta County, has been appointed assistant in rodent control work.

COMING EVENTS IN WEST

The annual district conferences of Montana Extension workers will be held June 8 to 17 at Great Falls, Glasgow, and Miles City. This year, in addition to the regular procedure at such meetings, time will be given to the consideration of long-time extension programs with regard to different products that are important in Montana's agriculture.

The third annual boys' and girls' club short course will be held at the University of Idaho, June 7 to 13.

The annual conference of extension workers will be held at College Station, Tex., in conjunction with the farmers' short course, July 27 to August 1, inclusive. This will be one of the largest meetings of persons interested in agriculture to be held in the Southwest this summer.

A total of 1,272 boys and girls, farm men and farm women, will come to the Washington State College of Agriculture, June 22 to 27, to attend some one of the five conferences to be held under the direction of the extension service. The fourth annual boys' and girls' club camp, the farm women's vacation camp, a farmers' conference, a local club leaders' conference, and the extension workers' summer conference will all be held during this week. Special trains on three railroads will bring the delegates to camp at excursion rates. Each county has been apportioned a certain number for each conference. Regular training in agriculture and home economics as applied to the betterment of farm life in Washington will be given. A farm women's vacation camp will be held in Tacoma, July 26 to 30, under the direction of the extension service of the State College. Similar camps were held last year. Instruction is to be given in nutrition, clothing, and home management, and training in community and home recreation is emphasized.

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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Amendment to the fiscal regulations

MEMORANDUM NO. 534.—May 16, 1925.—Paragraph 57 of the fiscal regulations of the department is hereby amended to read as follows:

57. **ADVANCE OF PUBLIC FUNDS.**—Public funds will be advanced to officers and employees for the payment of traveling expenses and of other expenses incurred during travel or at field stations, payment of which by a disbursing officer of the department is rendered impracticable by demand for immediate payment or other cause.

Advances of funds will be made only upon the filing of formal application therefor with the disbursing clerk (Voucher Form 100), approved by a chief of bureau or other authorized official, who shall have determined the amount to be advanced, not exceeding \$500. Applications for advances in excess of \$500 must be approved by the Director of Personnel and Business Administration. Except in unusual cases advances should not be requested or approved in connection with trips the cost of which will be less than \$50. In no case shall an advance exceed \$1,000. A copy of the letter of authorization under which an advance is sought must accompany the application. Employees desiring an advance will be required to file a surety bond in favor of the United States in the penal sum of \$1,000, the surety on which shall be one of the bonding companies approved by the Treasury Department.

Officers and employees whose accounts are paid by a district or other fiscal agent should submit their applications for advances of funds to the disbursing clerk through the proper fiscal agent and the Washington office of the bureau concerned with the necessary surety bond.

Additional advances may be obtained by employees in a travel status in amounts to be determined by (a) the chief of bureau, if the total balance due the United States is not thereby increased to an amount exceeding \$500; and (b) the Director of Personnel and Business Administration, if such additional advances create a balance in excess of \$500 but not more than \$1,000.

Expense accounts (Voucher Form 101) accounting for the expenditure of funds advanced must be rendered promptly at the close of each month or at the termination of a specific trip. Unexpended balances of funds advanced will be surrendered upon the demand of the disbursing clerk.

Necessary instruction for accounting for moneys advanced will accompany each advance, and accounting forms will be supplied by the disbursing clerk. (Laws 822, 864, 865, 866, 882, 903, 936, 937, 949.)

The only change, except a slight rearrangement in the order of the instructions, is in the opening sentence. Advances were previously confined to the payment of travel expenses. They may now, subject to the stated restrictions, be used also to meet the classes of station and field expenses—temporary la-

bor, emergency purchases, and the like—which have hitherto been paid by officers from their private funds and claimed on reimbursement accounts. The Director of Personnel and Business Administration is authorized to approve advances in excess of \$500, but not to exceed \$1,000, in exceptional circumstances.

Extracts from appropriation acts for 1926 (other than the agricultural appropriation act) and other acts and resolutions passed by the Sixty-eighth Congress (second session) which relate directly or indirectly to the Department of Agriculture or which may be of general interest to employees

MEMORANDUM NO. 535.—May 18, 1925.—The attention of officials and employees of the Department of Agriculture is invited to the following provisions of a general nature which are included in the several acts and resolutions indicated.

ACT MAKING APPROPRIATIONS TO SUPPLY DEFICIENCIES IN CERTAIN APPROPRIATIONS FOR THE FISCAL YEAR ENDING JUNE 30, 1924, AND PRIOR FISCAL YEARS, TO PROVIDE SUPPLEMENTAL APPROPRIATIONS FOR THE FISCAL YEAR ENDING JUNE 30, 1925, AND FOR OTHER PURPOSES, APPROVED DECEMBER 5, 1924, PUBLIC NO. 292

Damage claims, Department of Agriculture

To pay the claims for damages to privately owned property adjusted and determined by the Department of Agriculture under provisions of the act approved December 28, 1922 (42 Stat. p. 1066), as fully set forth in House Document No. 317, reported to Congress at its present session, \$2,545.89 (p. 11).

Memoranda of Office of Personnel and Business Administration

Promotions

P. B. A. Circular No. 7.—May 14, 1925.—The promotion of employees in the classified departmental service, exclusive of those occupying positions in grades 6 and 7 of the professional and scientific service, and grades 13 and 14 of the clerical, administrative and fiscal service, or positions excepted from the provisions of the classification act of 1923, must conform to the rules contained in section 14 of Bureau of Efficiency Circular No. 10, establishing ratings which employees must attain to be eligible for promotion to particular compensation rates. This is by the provisions of the Executive order of October 24, 1921.

It will be noted that the rules referred to are permissive; that is, they merely establish eligibility for promotion. The possibility of making promotions in particular instances depends largely upon the availability of funds and upon the situation in which employees of the various grades are found with respect to the operations of the so-called "average clause" in the appropriation act.

It will rarely be possible to promote all employees to their respective "eligible" salary rates. Usually, when promotions can be made at all, it will be found necessary to select particular employees for advancement from the whole number in any grade. The employees selected for promotion should be those indicated by the efficiency ratings as being most entitled thereto.

Under the provisions of section 6 of the classification act, the salary rates which became effective on July 1 last, bore a certain relation to the salaries received prior to that date. Employees receiving rates below the minimum of their grade were advanced to the minimum; employees receiving rates above the maximum were reduced to the maximum while employees receiving salaries between these points were left at the old rates, except for purely nominal adjustments. It follows that there was not always a

direct relation between the rates fixed for the employees of a given compensation grade and the efficiency of those employees. In general, future salary adjustments should be designed, so far as practicable, to establish such a relation. As it usually will be impossible to promote all employees in a compensation grade to the salaries to which they are eligible by their efficiency ratings, those should be promoted, generally speaking, whose present salaries are most deficient by comparison with their eligible salaries.

This may be illustrated by a list showing in a typical situation the order in which employees ordinarily should be selected for promotion:

Grade Caf—5 (\$1,860—\$2,400)

Order No.	Em- ployee's name	Rating	Salary		Excess of eligible salary over present	Order of selection for pro- motion
			Present	Eligible		
1	A-----	95	\$2,400	\$2,400	-----	2
2	R-----	92	1,920	2,300	380	-----
3	B-----	91	1,860	2,300	440	1
4	O-----	89	1,800	2,200	340	3
5	C-----	87	2,000	2,200	200	8
6	S-----	86	1,800	2,200	400	4
7	D-----	85	2,400	2,400	-----	-----
8	Q-----	84	2,300	2,300	-----	-----
9	E-----	83	1,860	2,100	240	5
10	N-----	82	1,920	2,100	180	9
11	F-----	81	1,860	2,100	240	9
12	M-----	80	800	2,100	240	1
13	G-----	79	1,920	2,000	80	10
14	L-----	77	1,860	2,000	140	17
15	H-----	76	2,200	2,200	-----	-----
16	J-----	71	2,100	2,100	-----	-----
17	I-----	68	1,920	1,920	-----	-----
18	K-----	65	1,860	1,860	-----	-----

It will be observed that in this list the employees are ranked in order for promotion on the basis of the degree of discrepancy between present and eligible salaries, and that where the discrepancy is the same for two or more employees, the ranking is in the order of efficiency ratings. In general these principles should govern, although in special instances where the disparity of salary (between actual and eligible) is the same for two or more employees, it may be desirable to base the preference for promotion upon length of service or other similar considerations.

It is implied in the classification act that promotions should normally be limited to the next rate above that received at the time the promotion is made, and this rule should be followed except in unusual circumstances.

It is intended that the foregoing shall be regarded under regular and ordinary circumstances as regulating the selection of employees for promotion and the rate of promotion in individual cases. Where in an individual case for administrative reasons it is necessary in the interest of the service to depart from the order indicated, an adequate explanation will be required of all of the facts upon which such special recommendation is based.

Efficiency Ratings and Register

P. B. A. Circular No. 8.—May 3, 1925.—Efficiency ratings of classified departmental employees should be obtained for the six-months' period ending May 15, 1925, as prescribed in General Circular No. 10, Bureau of Efficiency. No register will be required for employees in the field service.

The efficiency register form heretofore used will be discontinued and the report of final ratings prepared on efficiency rating form No. 6B which should be submitted in triplicate to the Office of Personnel and Business Administration not later than June 20. The various column headings on Form No. 6B are for the most part self-explanatory, but to insure uniformity the following suggestions should be observed:

Names of employees.—The surname should be written first.

Classification symbol.—Use the standard form to indicate the classification grade, e. g., CAF-1, P-2.

Efficiency rating.—The ratings should be expressed as whole numbers only. In computing the ratings decimals should be disregarded when less than 0.5 but counted as one point when 0.5 or more.

Eligible salary.—Usually the eligible salary will be finally determined under the rules given in section 14 of General Circular No. 10. But in case the present salary is in

excess of the salary rate so determined, the eligible salary will then be determined under the rules given in section 15 of General Circular No. 10. In other words, the eligible salary should not be shown as less than the present salary unless the employee is actually subject to demotion.

Conduct satisfactory?—In answering this question the use of an intermediate term of "fairly so" is authorized in section 3, General Circular No. 11, Bureau of Efficiency. The symbol FS may be used for this term in filling out the appropriate column of Form No. 6B.

Attendance.—Data under this heading may be omitted.

Supplies of Efficiency Rating Forms No. 8 and No. 6B may be obtained from the Office of Personnel and Business Administration. Additional copies of this circular, if desired, may be secured by requisition upon addressing: Duplicating and Mailing Section of the Office of Publications.

MAILING LIST CHANGES

The mailing lists record section, Office of Information, announces the following changes in the mailing lists of the department:

Lists Established

Key No.	Bureau	Title of list
FNS-6....	B. A. E.....	Foreign News Service on Broomcorn.
FNS-7.....	do.....	Foreign News Service on Nuts (general).
FNS-7A....	do.....	Foreign News Service on Almonds.
FNS-7B....	do.....	Foreign News Service on Walnuts.
IN-MA.....	do.....	Index to "Marketing Activities."
SSBA 1....	Information....	Secretaries of State Boards of Agriculture.

¹ Duplicates Key 383 maintained at the Government Printing Office. Stencils at the A. D. & M. Section of the Office of Information, for the expeditious distribution of multiphographed and mimeographed matter.

Lists Discontinued

Key No.	Bureau	Title of list
313.....	B. A. E.....	Grain Standards Acts.
439.....	do.....	Sugar Cane Growers (Louisiana).

The title of Key 286—Lecturer of Granges—has been amended to include Secretaries of Granges. The new title is "Lecturer and Secretaries of Granges."

BETTER MAILING WEEK

June 1 to 7 has been designated "Better Mailing Week" when a nationwide campaign will be undertaken to reduce the appalling loss occasioned by carelessness in addressing mail matter. The Post Office Department states that last year 21,000,000 letters went to the dead letter office. For the return of mail sent to the dead-letter office, the Government collects \$92,000 a year.

The man who mails a letter
Without a proper address,
Expects the impossible.
Uncle Sam can't tell
Its destination by finger prints
On the envelope.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. When is a practice which an extension agent introduces into a community generally considered "established"?

Answer. A practice advocated by extension workers may be considered established in a community when the majority of the people who should be concerned follow the practice regularly, or when the necessary supplies or merchantable articles are regularly offered for sale by dealers or associations of farmers.

Question. Are there any successful home methods for setting the color in dyed fabrics?

Answer. The household methods of soaking fabrics in salt, alum, pepper, vinegar, and various other solutions as a means of "setting" the color are largely a waste of time and materials. Though the color will not run from a dyed fabric as long as it remains in a saturated solution of salt or alum, this has no permanent effect on the dye. A fabric after treatment in this way is just as likely to fade when washed later in the ordinary way. No successful household methods of setting the color in dyed fabrics are known.

Question. What work is the Forest Service doing in connection with glue investigations?

Answer. During the past few years the general gluing requirements have been worked out for about 25 species of wood. A report on the gluing of wood covering animal, vegetable, and casein glues as used in both plywood and lumber joints have been partly completed. Tests to determine the effect of surfacing wood in various ways on the strength of glued joints have recently been completed. These tests indicate that surfaces prepared by tooth planing, sanding, etc., are no better for glue joints, and generally not as good as ordinary planed surfaces.

Work to improve the properties of new commercial water-resistant glues is under way for the Army and Navy, and also work to find more satisfactory methods of gluing refractory woods, such as ash, hickory, and other species of particular interest in aircraft manufacture. An investigation of casein plywood is also under way to find the conditions necessary in manufacturing to produce a plywood of uniformly high strength and water resistance. These investigations are conducted by the Forest Products Laboratory at Madison, Wis.

CIVIL-SERVICE ANNOUNCEMENTS

Entomologist (deciduous fruits), \$3,800. A vacancy in the Bureau of Entomology, for duty in the field, and vacancies occurring in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.

Receipt of applications will close June 23, 1925.

Under biological helper, \$1,140. Vacancies in the Bureau of Entomology and other branches of the Federal classified service, for duty in Washington, D. C., or elsewhere in the United States, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,500 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close June 13.

The receipt of applications for head dairyman, announced in THE OFFICIAL RECORD for May 20, will close June 23.

VISITS BUREAU OF HOME ECONOMICS

The following delegates to the quinquennial convention of the International Council of Women recently held in Washington visited the Bureau of Home Economics at various times and asked for detailed explanation of the research under way on home problems so that they might throw their influence toward the establishment of similar work in their own countries: Fru Marie Michelet, Norway; Mlle. A. M. Holm, Denmark; Madame Hedrige Makowiecka, Poland; Miss B. G. Alexander and Miss Mary Higham, South Africa; Miss F. Stevenson, Australia; Madame R. Pelantova and Madame F. F. Plaminkova, Czechoslovakia; Frau Hertha Sprung, Austria.

Fru Michelet, of Norway, and Mlle. Holm, of Denmark, were also particularly desirous of seeing extension work in operation, and a trip for them was accordingly arranged to Burke Station, Va., to attend a meeting under the direction of Miss Lucy Steptoe, home demonstration agent of Arlington County. Miss Higham, of South Africa, also attended a canning demonstration at Claggettville, Md., conducted by Miss B. A. Corwin, home demonstration agent of Montgomery County.

F. G. Ashbrook, in charge of fur resources, Biological Survey, spoke before the German Fur Commission in New York City on May 13 on the fur work of the department. This German delegation, which arrived in New York only recently, came to this country for the purpose of studying methods pursued in the business of the fur trade. The commission was particularly desirous of learning about the work of the Biological Survey relating to fur resources and the cooperative work between the department and the national association of the fur industry in assembling all the statistical data available on fur resources and the fur trade.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

RANGE SHEEP PROBLEMS STUDIED

Many problems of range sheep and wool production and range forage management are studied at the United States Sheep Experiment Station near Dubois, Idaho, a tract of 28,160 acres set aside for that purpose by President Wilson in 1915. In addition, in 1922 President Harding authorized the use of 16,650 acres of summer grazing land north of the Targhee National Forest for sheep-grazing experiments conducted at the Dubois station.

The difficult problem of watering range sheep is one of many being studied. A vast amount of western range land is inaccessible for sheep grazing because of the lack of open streams or other natural watering places. As a consequence much grazing land can only be utilized during early spring, when snow banks have not melted, during storms, and after snow flies in the fall.

The Dubois station offers excellent opportunities for studying the problem of artificially watering sheep. The annual rainfall there is but 13 to 15 inches, and most of that comes during the late fall, winter, and early spring. A great deal of the land is too far from open streams to be used for grazing, and the water table is very low, making well drilling expensive.

The Government has drilled one deep well, 750 feet in depth, at a strategic point on this tract. A 10-horsepower outfit pumps 500 gallons of water an hour and stores it in large concrete underground reservoirs. Outlying water stations, each consisting of a 10,000-gallon closed concrete storage reservoir, have been constructed in a semicircle about headquarters, at points 3 miles from the well, and at a distance of about 3 miles apart. Each of these reservoirs supplies a concrete trough 180 feet long and holding 1,600 gallons of water. These troughs permit the watering of a large band of sheep very quickly and without crowding.

The reservoirs are so located that water can be piped to them by gravity from headquarters. They can be filled also from the hillsides during storms and when the snows are melting in the spring.

Water is distributed elsewhere on the range by tanks and by movable troughs. In the spring or fall when snow is available, or during times of flood, the

sheep are grazed upon outlying ranges, thus conserving the grass around the watering stations for use in dry weather.

The storage of flood waters or water from melting snowdrifts in natural reservoirs constructed by throwing a rim of earth about a small natural basin having a solid rock bottom is also practiced. Sheep eat snow for water, and it has been found wise to fence large drifts of snow to keep the sheep from tramping it away, to cover the drifts with straw to retard the melting, and to provide a trough at the base of the drift to catch the snow water.

A careful saving of all the natural water that is available will do a great deal toward making possible the utilization of western grazing lands to the best advantage.

WITH EXTENSION FORCES

"BIRD WEEK" RESULTS IN CLUBS

A group of extension workers were discussing the service rendered to crop production by birds, especially in keeping down insects that continually threaten crops with destruction, such as chinch bugs, grasshoppers, potato bugs, plant lice, and caterpillars which birds eat in astounding quantities. "Does the average farmer," some one asked, "have a knowledge of practical ways for attracting and keeping helpful birds on his farm in order to get more benefit from them in the protection of his crops?"

The Bird Week of Washington County, Maryland, conducted in April by County Agent M. D. Moore in close cooperation with the United States Biological Survey, was in response to the extension responsibility implied in this question. Its immediate results were well worth while; the plans for permanent constructive effort promise much good for Washington County crops and their owners' pocketbooks and, incidentally, for the attractiveness of Washington County farms.

A program for the campaign was made as early as possible with the assistance of the county superintendent of schools, the teacher of nature study in the rural schools, the local chapter of the Izaak Walton League, the State extension service, and the United States Biological Survey.

Interest of boys and girls was deemed very desirable and plans seeking to enlist their enthusiasm included both contests and meetings. Announcements of the contests, one in bird-house construction and the other in making bird-protection posters, were published as early as possible.

Material was obtained in advance from the Biological Survey for the use of local newspapers and included a series of special articles on the value of birds in controlling the insect and weed pests common to Washington County and the program for the week's activities. Appropriate lantern slides and motion pictures from cooperating agencies were reserved for the week. Speakers were scheduled from the cooperating organizations, the State university, and other institutions interested in bird life. Local arrangements for meetings completed the principal preliminaries.

The newspapers started the week with the first of their articles. The large number of bird houses and posters entered in the contest were judged and placed on exhibit. Talks on the value of birds and how they could be protected, illustrated by lantern slides and motion pictures, were given for the boys and girls during the day, and for everybody at night. From five to seven talks were made each day. If anybody had doubts about interest in the beginning, they disappeared before the end of the week. The schoolboys and girls came back with their parents for the night meetings and, what is perhaps unusual for most extension gatherings, a number of the men followed the speakers to other appointments to hear them again. One meeting in a purely rural community was attended by 85 men.

Three bird clubs for adults have already resulted from the week's campaign and others, both for juniors and adults, are in process of forming. Bird study is being made a part of most school programs through the cooperation of the superintendent of schools. But perhaps the most noticeable result is that practically everybody in the county has come to recognize in the birds about his place a crew of hard workers who never strike or walk out, but pay for protection in actual dollar-and-cent value.

STUDY CAUSE OF HIGHWAY ACCIDENTS

Statistics of highway accidents involving motor vehicles, which seem to point clearly to congestion of traffic as the principal cause, have recently been compiled from newspaper reports of accidents in the States of Montana, Oregon, and Washington by the Bureau of Public Roads. The bureau's study shows that Montana, with the lowest registration, has the smallest number of accidents per 1,000 cars, while Washington, with the largest registration, has the most accidents per 1,000 cars. This does not agree with national estimates, which indicate that the rate of accidents decreases with increased numbers.

BRIEF REVIEWS OF NEW BULLETINS

Storage of Sweet Potatoes. By H. C. Thompson, formerly horticulturist, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 22, figs. 16, February, 1925. (Farmers' Bulletin 1442.)

The storage of sweet potatoes stabilizes the industry and makes the crop available over the greater portion of the year. Satisfactory storage is dependent upon sweet potatoes that are well matured and carefully handled; moreover, they must be cured after being placed in the house and kept at a uniform temperature while in storage. A substantial and satisfactory house for the storage of sweet potatoes can be built at moderate cost. If some existing building is available it is usually possible to alter it so as to make it suitable for this purpose. This bulletin is a revision of and supersedes Farmers' Bulletin 970, Sweet-Potato Storage.

Cooperative Extension Work, 1923. Prepared by the Office of Cooperative Extension Work. Pp. 104, figs. 23. [May, 1925.] Price, 15 cents.

As the organization of the extension work of the department changed on June 30, 1923, this publication is the first describing the work under its four present administrative districts—the Eastern States, North Central States, Southern States, and Western States. In spite of severe agricultural depression during the year there was a slight increase in the total funds appropriated for extension work from all sources. There were 2,310 county agents, 949 home demonstration agents, and 153 agents in boys' and girls' club work. Two hundred and sixty-four negro workers were also employed. Many charts and tables summarize various aspects of the work, and in each of the four regions the progress of the work is discussed in detail.

Report of the National Conference on Utilization of Forest Products. Pp. 100, figs. 29. April, 1925. (Miscellaneous Circular 39.) Price, 20 cents.

This report is a summary of the conference called by the late Secretary of Agriculture Henry C. Wallace, held in Washington, D. C., in November, 1924. It contains the speech "Forest Thrift" by President Coolidge, in which he called attention to the need for maintaining the present timber resources of the country as a trust. Five hundred representatives of forest-using industries, timber consumers, and other interested organizations made up the conference. The chief item of the report aside from speeches is the recommendation as to activities for the future. Eleven of the activities decided upon are projects in which commercial application of available knowledge is the pressing need, and eight of them are projects for further research. A complete discussion of the proposed activities together with a statement as to how the Federal and State agencies, forest schools and other technical institutions, and the forest industries may carry out the program for the future is also given in the report.

Report of the Guam Agricultural Experiment Station, 1923. By C. W. Edwards, animal husbandman in charge. Pp. 12, figs. 8, April, 1925. Price, 5 cents.

The report of the Guam Agricultural Experiment Station for 1923 records the visit

to the island on March 27 of a typhoon, which considerably injured buildings and growing crops in all sections and damaged the station property to the extent of \$8,000. It gives a brief account of the principal activities of the station and shows that only a small amount of experimental work was accomplished with the station stock, due to lack of funds for feeding the animals and a small labor force. Results are given of tests with 26 varieties of sorghum, introduced varieties of alfalfa, leguminous crops, root crops, adlay, and tropical fruits, including the practice of limb girdling or ringing for citrus as a means of bringing unprolific trees into bearing. The report also gives a summary of fertilizer work with rice, together with a short account of the activities of the extension division, and condensed meteorological data for the fiscal year.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of May 11-16, 1925. Copies of these publications may be obtained from the stations issuing them.

Results of fertilizer experiments with cotton, 1924. M. Nelson and W. H. Sachs. (Arkansas Sta. Bul. 1925, pp. 12, fig. 3. Apr., 1925.)

Report of the Agricultural Experiment Station of the University of California from July 1, 1923, to June 30, 1924. E. D. Merrill. Page 84.

Beekeeping for beginners. H. Garman. (Kentucky Sta. Circ. 35, pp. 34, figs. 11. Mar., 1925.)

Rural highways. C. P. Halligan. (Michigan Sta. Spec. Bul. 138, pp. 20, figs. 14. Jan., 1925.)

Alkali soils in Montana. E. Burke and R. M. Pinckney. (Montana Sta. Bul. 172, pp. 20, fig. 1. Jan., 1925.)

Tuberculosis in poultry. H. Welch. (Montana Sta. Circ. 127, pp. 11, figs. 7. July, 1924.)

Producing seed peas in Montana. C. McKee. (Montana Sta. Circ. 128, pp. 24, figs. 5. Apr., 1925.)

Results of seed and legume inoculant inspection for 1924. J. G. Fiske. (New Jersey Sta. Bul. 412, pp. 72, fig. 1. Mar., 1925.)

Economic studies of dairy farming in New York—III. Grade B milk with alfalfa roughage. E. G. Misner. (New York Cornell Sta. Bul. 438, pp. 104, figs. 3. Mar., 1925.)

Some effects of freezing on mature fruits of the apple. D. B. Carrick. (New York Cornell Sta. Mem. 81, pp. 54, pls. 7. Dec., 1924.)

Flax in Oregon. G. R. Hyslop. (Oregon Sta. Circ. 60, pp. 10. Apr. 1925.)

Construction and management of the bank storage cellar. L. M. Marble and R. D. Anthony. (Pennsylvania Sta. Bul. 191, pp. 32, figs. 16. Jan. 1925.)

The more important insects injurious to the sugar beet in Utah. I. M. Hawley. (Utah Sta. Circ. 54, pp. 47, figs. 33. Apr. 1925.)

The fertility of Washington soils. F. J. Stevers and H. F. Holtz. (Washington Col. Sta. Bul. 189, pp. 45, figs. 14. Dec., 1924.)

Wisconsin's opportunity with alfalfa. R. A. Moore and L. F. Graber. (Wisconsin Sta. Bul. 374, pp. 32, figs. 66. Mar., 1925.)

Articles by Department Workers in Current Publications

Abbott, W. S. (Entomology). A method of computing the effectiveness of an insecticide. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 265-267, April, 1925.

Back, E. A., and R. T. Cotton (Entomology). A newly recommended fumigant, ethyl

acetate, in combination with carbon tetrachloride. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 302-307, April, 1925.

Brown, B. E. (Plant Industry). Concentrated fertilizers. *Potato News Bulletin* 2, pp. 185-189, May, 1925. No. 5.

Cole, F. R. (Entomology). Notes on the dipterous family Therididae. *Canadian Entomologist*, vol. 57, no. 4, pp. 84-88, April, 1925.

Eaton, E. O. (Chemistry). An automatic "nonbreaking" siphon. In *J. Am. Pharm. Assoc.*, vol. 14, no. 4, April, 1925.

Hood, C. E. (Entomology). Fish oil—an efficient adhesive in arsenate of lead sprays, and results with other substances used. (Abridged copy.) *Journal of Economic Entomology*, vol. 18, no. 2, pp. 280-281, April, 1925.

Howard, L. O. (Entomology). Parasitic Hymenoptera feeding by indirect suction. *Entomological News*, vol. 36, no. 5, pp. 129-133, May, 1925.

King, J. L., and H. C. Hallock (Entomology). A report on certain parasites of *Popillia japonica* Newman. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 351-356, April, 1925.

Leach, B. R., and W. E. Fleming (Entomology). The fumigation of "balled" nursery stock. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 362-367, fig. 22, April, 1925.

Meigs, E. B., and H. T. Converse (Bureau of Dairying). Energy requirements of dairy cows. 1. The quantities of nutritive energy necessary to maintain dairy cows in nutritive equilibrium. *Jour. dairy science*, v. 8, no. 3, p. 177-195. May, 1925.

Minott, C. W., and I. T. Guild (Entomology). Some results of the defoliation of trees. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 345-348, Pl. Apr. 1925.

Morgan, A. C., and E. G. Mewborne (Entomology). The distribution of an insecticide made visible. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 299-301, April, 1925.

Schmidt, C. Rowena (Home Economics). Feeding problems of young children. *Jour. Amer. Assoc. of University Women*, vol. 18, no. 3, pp. 37-39, March, 1925.

Schultz, E. S. (Plant Industry). Methods to be observed to prevent spread of virus diseases in potatoes for seed stock. *Proceedings of the Potato Association of America*, vol. 11, pp. 20-26, 1925.

Shear, C. L., N. E. Stevens, and M. S. Wilcox (Plant Industry). Botryosphera and Phytophthora in the eastern United States. *Mycologia*, vol. 17, pp. 98-107. May-June, 1925.

Sherman, Caroline B. (Agricultural Economics). Which wheats and why. *American Bankers Association Journal*, May, 1925.

Siegler, E. H. (Entomology). The fatty acids as contact insecticides. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 292-299, April, 1925.

Simmons, Perez, and G. W. Ellington (Entomology). The causes of outbreaks of the Anjouan grain moth. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 309-320, April, 1925.

Snyder, T. E. (Entomology). A new Rugitermes from Panama. *Journal of the Washington Academy of Sciences*, vol. 15, no. 9, pp. 197-200, May 4, 1925.

Stanley, Louise. (Home Economics). The high-school practice house. *Child-Welfare Magazine*, vol. 19, no. 9, pp. 487-488, May, 1925.

_____. (Home Economics). The health of the country child. *The Country Gentleman*, vol. 90, no. 18, pp. 19 and 22, May 2, 1925.

Stuart, William (Plant Industry). Potato observations abroad. *Proceedings of the Potato Association of America*, vol. 11, pp. 123-129, 1925.

Sturtevant, A. P. (Entomology). The relationship of bacillus to the confusing symptoms in European foul brood. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 400-405, April, 1925.

Thomas, C. A. (Entomology). Observations on the life history of *Popillia japonica* Newman. *Journal of Economic Entomology*, vol. 18, no. 2, pp. 357-361, April, 1925.

Walace, E. (Plant Industry). Seven years' tests with commercial dusting materials against potato blight. *Proceedings of the Potato Association of America*, vol. 11, pp. 86-92, 1925.

Wherry, E. T. (Chemistry). Notes on some local plants and their soil acidity. *Bartonia*, vol. 8, December, 1924.

Wright, R. C. (Plant Industry). Low temperature injury to potatoes in storage. *Proceedings of the Potato Association of America*, vol. 11, pp. 54-59, 1925.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Preisseecker, Karl. Der tabakbau und die ausbildung des tabakass zum industriellen rostoff. Wien, K. K. Generaldirektion der osterreichischen tabakregie, 1914.
- Waters, H. J., and Elliff, J. D. Agricultural laboratory exercises and home projects adapted to secondary schools. Boston, Ginn, 1919.

CATTLE AND CATTLE FEEDING

- Hoxie, S. Holstein-Friesian cattle; salient points of their history and characteristics. 3d ed. [n. p.] 1904.
- Zeland, Denmark. Sammensluttede sjaellandske kontrolforeninger. De Sammensluttede sjaellandske kontrolforeninger gennem 25 aar. Slagelse, 1925.

HORTICULTURE

- Hedrick, U. P. Systematic pomology. New York, Macmillan, 1925.
- Norton, J. B. S. 1925 dahlia ratings. Hyattsville, Md., J. B. S. Norton, 1925.

Old books

- Gentil, François. Le jardinier solitaire. Bruxelles, 1725.
- Miller, Philip. Gärtner-kalendar. Göttingen, 1750.

SOILS

- International committee of soil science. Mémoires sur la nomenclature et la classification des sols. Helsingfors, Imprimerie de l'état, 1924.
- Werth, A. J. Bodenkunde. Berlin, P. Parey, 1924.

ROADS AND ENGINEERING

- Conference of the secretaries of the national standardizing bodies. 2d. Baden and Zurich, Switz., 1923. Report [n. p., 1923?]
- Highway education board. The relation of improved highways to home life. Essays winning State honors in the competition for the Harvey S. Firestone four years university scholarship for 1924. Washington, 1924.

LEATHER AND TANNING

- Casaburi, Vittorio, and Simoncini, Enrico. I semi di carruba nell'industria conciaria. Napoli. R. Stazione sperimentale per l'industria delle pelli, 1924.
- Casaburi, Vittorio. Reazioni qualitative per il riconoscimento dei tannini e dei coloranti anche se mescolati ad estratti concianti vegetali. Napoli. R. Stazione sperimentale per l'industria delle pelli, 1924.
- Tanners' council of the United States of America. Foreign tariffs on leather and raw stock. Washington, 1919.

FOOD AND HOME ECONOMICS

- Gillett, L. H. Adapting nutrition work to a community. New York, New York association for improving the condition of the poor, 1924.
- Vuyt, Paul de. Le rôle social de la fermière. Bruxelles, A. Dewit, 1907.

CHEMISTRY

- Gmelin, Leopold. Handbuch der anorganischen chemie. 8. aufl. t. 32-33. Leipzig, Verlag chemie g. m. b. h., 1924-25.
- Grey, E. C. Practical chemistry by micro-methods. Cambridge, Eng., W. Heffer & sons, 1925.
- Lawellin, S. J., and Evans, N. C. Milling chemistry; questions and answers. Chicago, National miller, 1925.
- Michaelis, Leonor. The effects of ions in colloidal systems. Baltimore, Williams & Wilkins, 1925.

ZOOLOGY

- Brun, Rudolf. Das leben der amaisen. Leipzig, B. G. Teubner, 1924.
- Cheesman, Evelyn. The great little insect. London, Hodder and Stoughton, 1924.
- Surcouf, J. M. R. Les tabanides de France et des pays limitrophes. Paris, P. Lechevalier, 1924.

- Weed, C. M., and Dearborn, Ned. Birds in their relations to man. 3d ed. Philadelphia, Lippincott, 1924.

BACTERIOLOGY

- Clarenburg, Adolf. Een systematisch onderzoek naar de waarde der kleine-placulturen volgens Froos voor de bepaling van het aantal levende bacteriën in melk. Utrecht, J. van Boekhoven, 1925. Inaug.-diss.

BOTANY

- Szymkiewica, Dezydery. Bibliografia flory polskiej, w Krakowie, Nakadem Polskiej akademji umiejtnosci, 1925.

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- Academy of political science. New York. Popular ownership of property. New York, 1925.
- De Belle Ball, G. Agriculture at the cross roads. London, Harrison and sons, 1924.
- Bureau of municipal research. Philadelphia. Workingmen's standard of living in Philadelphia. New York, Macmillan, 1919.
- Henry, Albert. Le ravaillement de la Belgique pendant l'occupation allemande. Paris, Les Presses universitaires de France, 1924. (Carnegie endowment for international peace. Division of economics and history. Histoire économique et sociale de la guerre mondiale. Série belge.)
- International labor office. Geneva. Les baromètres économiques. Rapport présenté au Comité économique de la Société des nations. Genève, 1924.
- Röder, Ludwig. Heimarbeit und landwirtschaft. Jena, G. Fischer, 1925.

REFERENCE BOOKS

- Garnett, William. A little book on map projection. 3d ed. London, G. Philip, 1924.
- Sloane, T. O'C. The standard electrical dictionary. New York, N. W. Henley, 1924.
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- Candy (monthly) v. 4, no. 3—Mar. 1925—Toronto.
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- The Hollywood magazine (monthly) v. 1, no. 5—Mar. 1925—Hollywood, Fla.
- Indian chemical society. Quarterly journal. v. 1, no. 1—Sept. 30, 1924—Calcutta.
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(Continued from page 1)

SECRETARY ADDRESSES TOBACCO MERCHANTS

"Standard grades will benefit alike the farmer, the dealer, and the manufacturer, and will serve as a basis for commercial transactions in tobacco and form a true index to the commercial value of lots of tobacco covered by warehouse receipts. * * *

"From the brief survey that I have given you it must be evident that the problems of tobacco growing and marketing, like other problems of agricultural production and distribution, are highly intricate. Farming in any field, under any circumstances, is no simple matter.

No one associated with any industry that depends upon agriculture, as some 80 per cent of our American manufacturers do, should overlook the intricacy and difficulty of the problems that confront the farm producer. * * *

Urges Cooperation of all Interests Involved

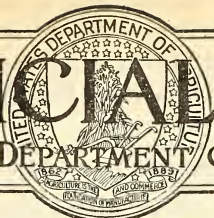
"Tobacco production, as I have indicated to you, is one of those agricultural enterprises which are extremely complicated. So far, largely because of their difficulty, relatively little progress has been made in the solution of the problems of the tobacco producer in comparison with the economic importance of the industry. These problems must be solved if we are to be assured of the continuance of tobacco production with profit and satisfaction to everybody concerned, and if we are to respond in the spirit of service more and more to the demands and needs of the country in this field. To solve the problems neither the efforts of the farmers themselves nor these coupled with the efforts of the United States Department of Agriculture, will be sufficient. What is necessary is for all interests involved in this great industry to join together with real cooperative spirit. It is only by cooperation that any of us make progress. In every effort that is made to put tobacco as an agricultural enterprise on a sound, permanent basis I am glad to pledge you the cooperation of the Department of Agriculture. A prosperous and satisfying rural life in the tobacco-growing regions, a fair profit for everyone engaged in the tobacco industry, and pleased consumers of the finished product—these are ends which deserve the interest and thought and cooperation of all of us."

ST. LOUIS U. S. D. A. CLUB

The regular meeting of the St. Louis U. S. D. A. Club on May 8 consisted of a trip through the Cahokia Electric Power Plant, which is a unit of the Union Electric Co., of St. Louis. The plant is situated at Cahokia, Ill., opposite St. Louis. The club members were divided into three parties and conducted through the plant by guides, who explained in detail the mechanical, electrical, and chemical features of this public utility, all of which were interesting, particularly to the scientific members of the club. As an illustration of the size of this plant, which is but half completed, the daily coal consumption amounts to over 1,000 tons, while the water required for condensing purposes is equivalent to that used by the entire city of St. Louis. The club contemplates further excursions into the industrial field of the St. Louis district.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JUNE 3, 1925

No. 22

LIVERPOOL ACCEPTS COTTON STANDARDS

Manchester Also Reverses its Former Decision to Withdraw from Agreement

The Liverpool Cotton Association, which on July 3, 1924, announced its intention to withdraw on August 1, 1925, from the agreement with this department to use universal cotton standards for American cotton, has just canceled its notice of withdrawal and has signed the supplemental agreement providing for the use of the universal standards, according to cable advices from Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics.

Amend Supplemental Agreement

At the same time the cotton committee of the Federation of Master Cotton Spinners' Associations, Manchester, which on August 1, 1924, likewise announced its intention to withdraw from the universal cotton standards agreement and which was not a party to the supplemental agreement, passed a unanimous resolution recommending that the federation take action similar to that taken by Liverpool. The federation acted favorably upon this resolution and a few days later cabled Secretary Jardine canceling the previous notice of withdrawal and authorized the signing of the supplemental agreement as amended at the recent London conference.

The department is gratified that the Liverpool association and the Federation of Spinners have found it possible to take this action, which it regards as assuring beyond question the use of the universal standards in international trade.

At the conference of the signatories to the agreement held at London, May 20, unanimous approval was granted amendments looking toward the legalization of the agreements and various

suggestions to insure the smooth working of the whole scheme. The proposal providing for a two-year standard instead of requiring that the standard be prepared annually was also unanimously approved, and it was agreed that the next meeting for the preparation of key sets be held in March, 1927.

The London conference was held at the American Embassy with Doctor Taylor as chairman. Ambassador Houghton made a short address of welcome to the delegates who represented the following associations: The Liverpool Cotton Association (Ltd.), the Manchester Cotton Association (Ltd.), Syndicat du Commerce des Cotons du Havre, Bremen Baumwollborse, Association Cotoniera Italiana, March de Coton a Gand, Centro Algodonero de Barcelona, Vereeniging Voor den Katoenhandel, Rotterdam, and the Federation of Master Cotton Spinners Association (Ltd.), of England. Other representatives of the department who attended the conference were E. A. Foley, agricultural commissioner stationed at London, H. C. Slade, and W. I. Holt, cotton specialists.

Training for Cotton Classers

As part of the campaign to familiarize classers throughout the Cotton Belt with the universal standards, the Bureau of Agricultural Economics is working with cooperative associations and agricultural colleges in training men for this work.

George Butterworth, a specialist in cotton classing, has recently returned from Memphis where he conducted a three-weeks course in grading for the benefit of classers employed by the American Cotton Growers' Exchange. These men were from all parts of the South. Nineteen men took the examination and qualified for classers' licenses under the cotton standards act. These results are very gratifying because heretofore only one out of 100 who took this examination was given a license.

Special courses in cotton classing at the summer schools of the Clemson Agricultural College and the Oklahoma Agri-

(Continued on page 7)

U. S. D. A. VETERANS HEAR DOCTOR JARDINE

Talks of Late Secretary Wallace as Educator and Devoted Friend of American Farmer

Secretary Jardine addressed the Department of Agriculture Post of Veterans of Foreign Wars at their annual memorial service, Friday afternoon, May 22, at the New National Museum, Washington. The service this year was devoted in part to the memory of the late Secretary of Agriculture Henry C. Wallace, in whose honor the post has established a scholarship at Lincoln Memorial University. The principal speaker was Dr. John Wesley Hill, chancellor of the university. The Secretary spoke briefly.

Praises Department War Veterans

"As the representative of the United States Department of Agriculture, and in my own personal capacity," said Secretary Jardine, "I feel that we can not too often commemorate the services of those who have given their lives for their country. We are all sharers in the fruits of their sacrifices.

"The Department of Agriculture made a conspicuous showing in the World War. Men from the department were found in every branch of the service, and performed their tasks with patriotic zeal and with the ability developed through their technical training. Those who lost their lives in the conflict left a double record of achievement—service to American agriculture in time of peace and service in the protection of the Nation in time of war.

"To-day we commemorate not only those who lost their lives in the war, but Henry C. Wallace, late Secretary of Agriculture, a man whom we all knew, respected, and loved. His death was a sacrifice on the altar of the Nation as much as if he had been killed in war. He gave himself for the interests of American farming and the American

farmer. His deep convictions, his utter sincerity of purpose, and his unflinching devotion to agriculture caused him to offer himself without stint or limit. He lived and died for America.

"It seems to me particularly appropriate that this post of the Veterans of Foreign Wars has established in the Lincoln Memorial University the Henry C. Wallace scholarship. Secretary Wallace was deeply interested in education. He had been a teacher himself, and he knew the importance of education to good citizenship. As an editor and then as Secretary of Agriculture, he continued his work as an educator in a broader field than that of school or college. Furthermore, he was always interested in those who for any reason had been denied advantages that others received. I know that his sympathies would be keen for a plan to bring education to the mountaineer youth who so ardently desire it and who are pleading for admission to the Lincoln Memorial University. No memorial more serviceable, more fitting, or more in accord with Secretary Wallace's view of life could be established by this post. I congratulate you on your interest in education and on your desire to pay appropriate tribute to the memory of a great and beloved leader."

BOLIVIAN VISITS DEPARTMENT

Julio C. Patino, La Paz, Bolivia, special commissioner for the study of cattle breeding, and plant attaché to the Bolivian Legation, with his son and nephew recently visited the department and had an interesting conference with Assistant Secretary Dunlap.

Being especially interested in dairying, Mr. Patino made a special study of the investigational work at the Bureau of Dairying experimental farm, Beltsville, Md. He attended a recent cattle sale, purchasing several head of dairy cattle, and on a later visit to New York State made some additional purchases. He has the largest herd of dairy cattle in Bolivia, about 300 milk cows, and employs more than 300 natives on his place. He is thoroughly in accord with American methods and intends to install American equipment for his entire dairy herd. He and his party are returning to South America on June 6.

The United States stands first among the stock-raising countries of the world, but Argentina and Australia, which are sparsely populated, have large surpluses of beef and mutton and are the principal factors in supplying the European deficit in these classes of meat.

Compact Exhibits on Livestock Improvement Now Available

Small enough to be carried by hand in a canvas case, but requiring a large table to hold them when extended for display purposes, portable exhibits on livestock improvement are available for meetings, where the subject of better stock is discussed. Each exhibit consists of a center panel measuring about 2½ by 3 feet to which four other panels are hinged in such a way that they fold into a package no larger than the center panel. To meet the demand for this class of material the department has prepared several which are being loaned to extension workers and responsible organizations which will pay shipping charges. The weight is about 35 pounds.

The exhibit is loaned for 30 days, and at the expiration of this time persons desiring to hold it longer may request an extension of time. The educational material which covers all faces of the five panels is chiefly of pictorial nature, giving information and the department's recommendations on livestock improvement. The use of purebred sires receives emphasis.

A trial exhibit of the nature described, made last fall, has seen service in several sections of the United States. The newer ones are duplicates, with the addition of some cartoon features. Requests for the use of this material should be addressed to the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C., and will be filled in the order received.

TEN MILLION CATTLE TESTED FOR TB

The nation-wide drive to stamp out bovine tuberculosis now includes veterinary supervision of more than ten million cattle. A report just issued by the department on the status of the work shows the following progress up to the first of April.

Cattle under supervision.....	10,201,492
Cattle in herds successfully passing the first test.....	6,777,624
Cattle in fully accredited herds....	1,187,908
Cattle tested during the last month (March 1925).....	617,810
Cattle reacting to the test during month.....	19,841
Cattle on waiting list to be tested..	3,498,072
Modified accredited counties, recognized as tuberculosis free..	69

Reports from various parts of the country show unusual interest in tuberculosis eradication on a county-wide basis. In the first three months of the year the number of "modified accredited" counties, those having less than one-half

of one per cent of the disease, increased from 53 to 69. Veterinary officials of the Bureau of Animal Industry consider that such progress is ample proof of the practicability eventually of freeing entire States from the disease. North Carolina already has 30 counties, officially recognized as free from bovine tuberculosis.

Eradication of the disease from cattle is the first step in removing the menace of tuberculosis to hogs and poultry. The suppression of infection among livestock aids likewise in the control of human tuberculosis.

UNITY CLUB

The regular monthly luncheon meeting of the Indianapolis Unity Club was held at the chamber of commerce on Monday, May 11. Pres. H. A. Rhoades presided, and Albert Stump, attorney, was the guest of the club. During luncheon the minutes received from various other U. S. D. A. clubs were passed among the members for perusal. After luncheon the minutes of the previous meeting were approved as read. Mr. Stump spoke to the club on the subject of "Progress and human happiness." His talk was very interesting and instructive and the club expressed its appreciation by a rising vote of thanks.

The Assistant Commissioner of Indian Affairs E. B. Meritt, who recently read the report of the first boys' and girls' garden club at Taos Pueblo, writes the department that "The method of approach used to inaugurate these activities will be of value in introducing the work on other reservations. We are especially pleased to note that both boys and girls were enrolled and that the Indian parents have become as much interested in the work as the children, which will insure future progress. We will soon have efficient junior demonstrators at Taos and be in a position to make plans for consistent growth along this line during the next few years. Your hearty cooperation is appreciated and we will be glad for any suggestions which you may have to offer from time to time for the furtherance of this work among the Indian youth."

Members of the Kansas City U. S. D. A. Club were pleased to have as their guest Assistant Secretary Renick W. Dunlap at an informal luncheon held in the Kansas City, Kans., Chamber of Commerce on May 14. The Assistant Secretary gave a very interesting and instructive talk on matters pertaining to the work and policies of the department.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

HIGHWAY CONFERENCE AT ATLANTA

Highway officials of the Southern States will meet in Atlanta on June 8 to designate the important interstate roads in these States which will be uniformly marked as United States highways. The meeting is the outcome of the initial conference of the joint board on interstate highways, composed of State and Federal highway officials, which was held in Washington April 20 and 21. Regional meetings have been held in San Francisco, Kansas City, and Chicago, and the Atlanta meeting will be followed by meetings in New York and Boston for the purpose of selecting the important interstate roads which, after coordination as between the various sections, will be known as United States Highways.

REPORT ON PUSH CART MARKETS

Fruits and vegetables sold from pushcarts in the streets of New York are generally wholesome and suitable for human consumption, but the sale of fish as it is being carried on is a menace to public health and should be prohibited, declares the department in a special report on pushcart markets. The importance of the pushcarts as food distributors is shown by the fact that approximately 1,500,000 people in New York purchase all or part of their fruits and vegetables, dried fruits, nuts, and cheese from the pushcart peddlers, spending fully \$35,000,000 a year for fruits and vegetables alone. This vast quantity represents 11 per cent of the total amount of fresh products consumed in the city. The annual expenditure for fish in the street markets is calculated at \$1,000,000, while the sales of merchandise exceed \$9,000,000.

DEMAND FOR DAIRY Sires IN GERMANY

A good market in Germany for American Holstein dairy sires of good milk production ancestry is reported by William A. Schoenfeld, agricultural commissioner representing the department at Berlin.

LARGER COTTON AREA IN RUSSIA

The area planted to cotton in Russia up to May 1 was 1,401,000 acres compared with a total area of 1,196,000 acres planted to cotton last year, ac-

cording to a cable from the International Institute of Agriculture at Rome to the department. Growing conditions are reported as favorable.

EUROPEAN GRAIN CROP ESTIMATED

A slight decrease in wheat acreage is reported for 21 countries, according to the new estimate received by the department from the International Institute of Agriculture at Rome. This, including the new French estimate, brings the total of 21 countries reported to date to 127,046,000 acres compared with 129,075,000 acres for the same countries last year, a decrease of 2,029,000 acres, or 1.6 per cent.

USE SALT TO KILL BARBERRIES

Officials of the department selected salt from more than 40 different chemicals as the most satisfactory to use in killing the common barberry which spreads the black stem rust of cereals. The four prime requisites of a satisfactory chemical with which to kill barberries are cheapness, availability, effectiveness, and a minimum of danger to adjacent plants and to grazing animals. In the final selection of chemicals for this purpose only three were found to be both cheap and effective. These are salt, sodium arsenate, and kerosene.

BOLL-WEEVIL PROSPECTS

The Bureau of Entomology has just completed the annual examination made for the purpose of determining the survival of boll weevils in Spanish moss. The examinations this year have been more extensive than has been the case in the past, including not only the usual points around the laboratory at Tallulah, La., but also representative points in extreme southern Louisiana and in South Carolina and Georgia. The records indicate that as far as the initial emergence of the weevil is concerned the Southeastern States may expect at least a normal number, sufficient, in fact, to be a serious control problem from the very beginning of the season in those fields nearest to hibernation shelter. From Alabama westward, however, it is evident that a lighter infestation will prevail on the average with the possible exception of the extreme Gulf coast regions, but it is also evident that this infestation is going to be very abnormally "spotted." A peculiar combination of conditions last summer and fall produced exceedingly variable crops of weevils to go into hibernation, and it will probably be found that regions of heavy infestation will be separated by only a few

miles from regions of very light infestation. Under such circumstances the main thing for the farmer to consider is the number of weevils present in his neighborhood immediately before frost last fall. Minimum temperatures for the winter have been fairly high, certainly not below normal, and as a consequence survival among those weevils actually in hibernation has evidently been fairly high, and emergence is going to be largely determined by the local abundance of weevils entering into hibernation in the fall. To summarize, while the emergence will be fairly low throughout a large portion of the territory examined, it is still high enough so that, with summer weather favorable for weevil multiplication, serious damage will develop, and the best which may be expected is that the farmer will have at least an initial advantage in the early season in his fight against the weevil.

NYUSDA CLUB MEETING

The regular monthly meeting of the Nyusda Club was held in New York on April 15, 1925. Dr. H. B. Shaw, chairman of the committee on information, announced that in accordance with the committee's plan for a series of radio talks outlining the activities of the United States Department of Agriculture to the people in the vicinity of New York City, he had made further arrangements for the following talks over station WNYC at 9 p. m. on the evenings of the dates indicated:

April 18. J. H. Frazier, grain supervisor, Bureau of Agricultural Economics, on "How grain standards facilitate trade and commerce."

April 25. Dr. Albert Long, in charge of the Meat Inspection Service, Brooklyn district, on "Federal meat inspection: Aims and results."

May 2. W. C. Hackleman, Bureau of Agricultural Economics, on "Government inspection of fruits and vegetables."

This makes a total of seven talks already arranged for or delivered over this station. Further talks are in preparation. B. F. McCarthy, president of the club, announced that arrangements have also been made for broadcasting every evening brief newsy items on matters of news interest to the public occurring in connection with the department's activities. He also announced arrangements for the broadcasting of the crop reports on the days of their release.

Dr. A. D. Imms, of Rothamsted, England, recently visited at the department to consult with various specialists.



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

MEMORANDUM No. 536, May 20, 1925.—Section 4 of paragraph 568 of the Fiscal Property, and Administrative Regulations is hereby amended to read as follows:

"Communications to heads of other departments.—All communications to heads of other departments and independent establishments of the Government shall be prepared for the signature of the Secretary, the Acting Secretary, the director of scientific work, the director of regulatory work, the director of extension work, the director of personnel and business administration, or the director of information. When a letter is written in reply to a letter addressed to this department by another department or independent establishment, it should be prepared for the signature of the official indicated on the jacket filled out in the Secretary's office, referring the letter to the bureau concerned, for the preparation of a reply. As a general rule, if a letter is received from an Acting Secretary or Assistant Secretary of any department, the reply thereto shall be addressed to the Secretary of that department and not to the Acting Secretary or Assistant Secretary who signed the letter. When a letter addressed to the head of another department or independent establishment originates in this department, it should be prepared for the signature of the Secretary or Acting Secretary if it involves a matter of policy or a question of considerable importance. Such letters relating to routine matters should be prepared for the signature of the appropriate director."

The purpose of this amendment is to authorize the directors of the various lines of work in this department to sign routine communications to other executive departments and independent establishments of the Government.

Administration of Cooperative Provisions of the Clarke-McNary Reforestation Act (43 Stat. 653)

Memorandum No. 537, May 25, 1925.—Sections 1-3 of the Clarke-McNary law provide for cooperative work with the States in forest-fire prevention and suppression and in studies of forest taxation and timber insurance. The agricultural appropriation act for the fiscal year 1926 carries an appropriation of \$660,000 for the cooperative work authorized by these sections. The Forest Service of the department is designated as the agency within the department to administer this appropriation and the work carried on under it.

Section 4 of the Clarke-McNary law provides for cooperation with States in the distribution of forest planting stock. An appropriation of \$50,000 is made available by the agricultural act for this project during the fiscal year 1926. The Forest Service is also designated as the agency within the department to administer this appropriation and the work conducted thereunder.

Section 5 of the Clarke-McNary law provides for assistance to farmers in forestry work in cooperation with the States. An appropriation of \$50,000 has been made available by the agricultural act for 1926 to carry out this project. The extension service of the department is designated as the agency within the department to administer this appropriation and the work to be conducted under it.

Department employees administering work under the Clarke-McNary Act will use every effort to secure coordination of the activities of the State departments of forestry, colleges of agriculture, and other agencies engaged in any phase of forestry work contemplated by that act.

Memoranda of Office of Personnel and Business Administration

Branch Office Directory

P. B. A. CIRCULAR No. 4—May 11, 1925.—The duties of preparing and maintaining records of employees in charge of field stations of the department, as required by Circular No. 92 of the office of the Secretary, dated December 28, 1921, hereafter will be performed by the personnel section of this office, under the direction of Mr. Gladmon.

It is requested that an employee of your bureau be designated, and his name and title forwarded to this office, to report to Mr. Gladmon all changes, as they occur, in personnel, location, and work affecting employees in charge of branch-office and field-station activities.

Recommendation for Appointment to Accompany Return of Civil Service Certificate

P. B. A. CIRCULAR No. 6—May 7, 1925.—In order to simplify routine operation, upon selecting the name of an eligible from a list of three contained on a certificate of eligibles to fill a single vacancy, bureau personnel offices should send to the office of the director of personnel and business administration at one time the certificate and the letter recommending the appointment of the eligible selected, indicating in the letter of recommendation what disposition, if any, was made of the remaining eligibles on the certificate.

Stocks of Departmental Forms

P. B. A. CIRCULAR No. 9, May 20, 1925.—Stocks of all types of blank forms in common use in the department hereafter will be maintained and distributed by Mr. H. A. Nelson, at the central supply section, 220 Fourteenth Street SW. In connection with the issue of forms produced by a duplicating process, an appropriate charge will be made against the addressing, duplicating, and mailing section allotment of the ordering bureau.

MOTOR TRANSPORTATION SPARE PARTS

1. The Quartermaster General, United States Army, advises that because of anticipated reductions in civilian personnel for the next fiscal year, it will be necessary to dis-

continue supplying motor-vehicle spare parts and accessories from War Department garage at 141 Q Street NW., Washington, D. C., effective July 1, 1925.

2. In those cases where departments or establishments desire spare parts in quantity lots they may be obtained at the Holabird quartermaster intermediate depot, Camp Holabird, Md., but all small lots of spare parts should be purchased in the open market.

3. This memorandum supercedes Circular No. 8 of this office, dated May 1, 1922, which is accordingly rescinded.

4. The telephone number of this office has been changed to Main 2520, branch 403.

C. O. SHERRILL,
Coordinator, Motor Transport,
District of Columbia.

CIVIL SERVICE ANNOUNCEMENT

Cold Storage Warehouse Truckee. A vacancy in Center Market, Bureau of Agricultural Economics, Washington, D. C., at \$4 per diem when actually employed, and future vacancies requiring similar qualifications at this or higher or lower salaries may also be filled from this examination. Applicants should at once apply for Form 2374, stating the title of the examination desired, to the Secretary, Fourth Civil Service District, 1723 F Street NW., Washington, D. C. Receipt of applications will close on June 10, 1925. The date set for the assembling of competitors will be stated on the admission cards sent applicants after the close of receipt of applications.

MUSEUM RECEIVES CASEY COLLECTION

The national collection of insects housed in the National Museum is continually consulted by the specialists in the Bureau of Entomology of the department, in connection with the identification of insect pests. Many of the specialists of the Federal Bureau of Entomology who devote all of their time to the identification of domestic and foreign insect enemies are given quarters in the National Museum. The Museum has recently received a very extensive addition to the national collection of beetles. This addition came to the Museum by the will of the late Col. Thomas L. Casey, who has for years been one of the most prominent students of beetles. The addition of this collection to the National Museum will greatly assist the specialists in the Bureau of Entomology whose duty it is to determine injurious and beneficial beetles.

Shortly after the receipt of the collection, Mrs. Casey, wife of the donor, gave to the National Museum a generous sum of money to permit the purchase of an unusually fine binocular microscope, which is to be used by students consulting the collection. The microscope is equipped with several new features and a very complete series of objectives which give the highest magnification possible with a binocular.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How does the division of the farm family's dollar for living expenses compare with that in industrial groups?

Answer. In 1921 from 402 farm families in New York State, the Bureau of Home Economics and the Bureau of Agricultural Economics found that living expenses were divided as follows: Food, 39.5 per cent; clothing, 13.8; rent, 11.6; fuel, 7.1; other purposes, 28. Figures gathered by the United States Department of Labor in 1918 from about 12,000 industrial families show that they spent their money in this way: Food, 38.2 per cent; clothing, 16.6; rent, 13.4; fuel and light, 5.3; all other purposes, 26.4. The cash outlay of the industrial families, however, was much greater. In the case of the farm families, about half the value of the food, all the rent, and nearly half the fuel, were furnished by the farm without direct purchase.

Question. Regarding damage done and amount of money spent in controlling, what are the 10 insect pests of the United States that are of the most economic importance?

Answer. Eleven entomologists of the department voted on the above question with the following results: (1) Boll weevil, 11 votes; (2) Hessian fly, 11 votes; (3) codling moth, 8 votes; (4) corn earworm (known also as bollworm, tomato fruitworm, and false tobacco budworm), 8 votes; (5) mosquitoes (more than one species), 8 votes; (6) chinch bug, 6 votes; (7) Colorado potato beetle, 6 votes; (8) grasshoppers (several species), 6 votes; (9) house fly, 6 votes; (10) San Jose scale, 5 votes.

Other pests voted for were: Rice or grain weevil, 4 votes; Dendroctonus barkbeetles, 3 votes; European corn borer, 3 votes; gipsy moth, 3 votes; cabbage worm, 2 votes; cattle grubs (two species), 2 votes; clothes moths (three species), 2 votes; Japanese beetle, 2 votes. Fourteen other different pests received one vote each.

Question. What wind velocity constitutes a light wind and what constitutes a gale?

Answer. The answer to this question is furnished by the following specifications of the Beaufort wind scale as used by the United States Weather Bureau:

Explanatory titles	Beaufort No.	Miles per hour (statute)
Calm	0	Less than 1.
Light air	1	1-3.
Slight breeze	2	4-7.
Gentle breeze	3	8-12.
Moderate breeze	4	13-18.
Fresh breeze	5	19-24.
Strong breeze	6	25-31.
High wind	7	32-38.
Gale	8	39-46.
Strong gale	9	47-54.
Whole gale	10	55-63.
Storm	11	64-75.
Hurricane	12	Above 75.

AGRICULTURAL EXPERIMENT STATIONS

The Office of Experiment Stations has released the following list of agricultural experiment stations in the United States, corrected to March, 1925. It gives the post-

office addresses of the stations, followed by the name of the director or other officer in charge.

Alabama—

College station, Auburn: M. J. Funchess.
Canebrake station, Uniontown: W. A. Cammack.

Tuskegee station, Tuskegee Institute: G. W. Carver.

Alaska—Sitka: C. C. Georgeson.

Arizona—Tucson: J. J. Thornber.

Arkansas—Fayetteville: D. T. Gray.

California—Berkeley: E. D. Merrill.

Colorado—Fort Collins: C. P. Gillette.

Connecticut—

State station, New Haven; Storrs station, Storrs: W. L. Slate, Jr.

Delaware—Newark: C. A. McCue

Florida—Gainesville: Wilmon Newell.

Georgia—

College station, Experiment: H. P. Stuckey.

Coastal Plain station, Tifton: S. H. Starr.

Guam, Island of—Guam: C. W. Edwards.

Hawaii—

Federal station, Honolulu: J. M. Westgate.

Sugar Planters' station, Honolulu: H. P. Agee.

Idaho—Moscow: E. J. Iddings.

Illinois—Urbana: H. W. Mumford.

Indiana—LaFayette: G. I. Christie.

Iowa—Ames: C. F. Curtiss.

Kansas—Manhattan: F. D. Farrell.

Kentucky—Lexington: T. P. Cooper.

Louisiana—

State station, University Station, Baton Rouge; Sugar station, Baton Rouge;

North Louisiana station, Calhoun;

Rice station, Crowley; Fruit and Truck

Station, Hammond: W. R. Dodson.

Maine—Orono: W. J. Morse.

Maryland—College Park: H. J. Patterson.

Massachusetts—Amherst: S. B. Haskell.

Michigan—East Lansing: R. S. Shaw.

Minnesota—University Farm, St. Paul: W. C. Coffey.

Mississippi—A. and M. College: J. R. Ricks.

Missouri—

College station, Columbia: F. B. Mumford.

Fruit station, Mountain Grove: F. W. Faurot.

Poultry station, Mountain Grove: T. W. Noland.

Montana—Bozeman: F. B. Linfield.

Nebraska—Lincoln: E. A. Burnett.

Nevada—Reno: S. B. Dotten.

New Hampshire—Durham: J. C. Kendall.

New Jersey—New Brunswick: J. G. Lipman.

New Mexico—State College: Fabian Garcia.

New York—

State station, Geneva; Cornell station,

Ithaca: R. W. Thatcher.

North Carolina—State College station, Raleigh: B. W. Kilgore.

North Dakota—Agricultural College: P. F. Trowbridge.

Ohio—Wooster: C. G. Williams.

Oklahoma—Stillwater: C. T. Dowell.

Oregon—Corvallis: J. T. Jardine.

Pennsylvania—

College station, State College: R. L. Watis.

Institute of Animal Nutrition, State College: E. B. Forbes.

Porto Rico—

Federal station, Mayaguez: D. W. May.

Insular station, Rio Piedras: R. M. Ramos.

Rhode Island—Kingston: B. L. Hartwell.

South Carolina—Clemson College: H. W. Barre.

South Dakota—Brookings: J. W. Wilson.

Tennessee—Knoxville: C. A. Mooers.

Texas—College Station: B. Youngblood.

Utah—Logan: William Peterson.

Vermont—Burlington: J. L. Hills.

Virginia—

College station, Blacksburg: A. W. Brinkard, jr.

Truck station, Norfolk: T. C. Johnson.

Virgin Islands, U. S. A.—St. Croix: J. B. Thompson.

Washington—

College station, Pullman: E. C. Johnson.

Western Wash. station, Puyallup: W. A. Linklater.¹

West Virginia—Morgantown: H. G. Knight.

Wisconsin—Madison: H. L. Russell.

Wyoming—Laramie: J. A. Hill.

¹ Superintendent.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel and business administration, the following employees in the department were recently retired:

Harry B. Adair, an assistant veterinarian, in the Bureau of Animal Industry, at Kansas City, Kans., was retired on March 8, 1925, on account of age. He was born on March 9, 1855, was 70 years at date of retirement, and had served continuously in this department since October 1, 1896, a period of 28 years 5 months and 8 days.

John Bennett, a senior lay inspector, in the Bureau of Animal Industry, at Sioux City, Iowa, was retired on account of total disability, effective February 12, 1925. He was born on November 15, 1859, was more than 65 years of age at date of retirement, and had served continuously in this department since September 24, 1906, a period of 18 years 4 months and 19 days.

David M. Coppock, a lay inspector, in the Bureau of Animal Industry, at Chicago, Ill., was retired on account of total disability, effective December 1, 1924. He was born on October 21, 1858, was more than 66 years of age at date of retirement and had served continuously in this department since September 26, 1906, a period of 18 years 2 months and 6 days.

Thomas J. Lowry, an assistant lay inspector, in the Bureau of Animal Industry, at Omaha, Nebr., was retired on account of age on March 31, 1925. He was born on December 12, 1850, and was nearly 75 years of age at date of retirement. He reached the age of retirement in 1920, but was included among those who were continued in the service. He completed 30 years' service in this department a few days prior to his retirement and expressed the wish to discontinue his service. Mr. Lowry served as a drummer boy during the Civil War in Company K of the Thirty-fifth Iowa Regiment.

Miss Sarah A. Noone, an office laborer, in the Bureau of Home Economics, was retired on account of age on March 24, 1925. She was born on November 20, 1849, and was more than 74 years of age at date of retirement. She had been continuously employed in this department since September 1, 1901, a period of a little more than 23½ years.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

SPECIAL SERVICES OF WEATHER BUREAU

In the State of New York the Weather Bureau carries on two distinct, though closely related, projects known as fruit-spray and harvest-weather forecasting. The fruit-spray forecast service, principally for apple orchardists in 10 counties near Lake Ontario, begins early in April and extends into the latter part of June. The harvest-weather forecast work starts in the latter part of June and extends through August, although there is demand and justification for beginning it earlier and terminating it a few weeks later.

The fruit-spray forecast service was begun in 1919 to furnish specialized information as to the coming of rains. Unless rains or misty weather occur within about three days after spray is applied, the effect of the poison is minimized or lost altogether, but if rains occur and spray has not been applied, a season's profit may be turned to loss.

The great responsibility of the forecaster for issuing accurate and timely weather forecasts becomes apparent when it is known that about 12,000 commercial apple orchards in 9 counties are equipped for spraying; that, working the limit of daylight hours, two to three days are required for spraying many of the larger orchards; that at least three applications are made in a season; that the total cost during a season for materials and labor alone represents an expenditure of over \$3,500,000; and the returns from sales of fruit from properly sprayed trees is often in excess of \$100 per acre over that from infected trees.

In conducting this work a telegram is sent each night during the spraying season from Washington giving the views of the Washington forecaster as to the character of weather to be expected in New York orchard districts for as long a period in advance as the conditions shown on the weather map justify. Amplified forecasts are then prepared, based on the message received from Washington, and these forecasts telephoned or telegraphed to the one or more pathologists and entomologists who are field leaders in the various counties. Before the following morning all the orchardists whose trees are in a condition for spraying are notified by

the field leaders through a telephone relay system.

Demands for similar service have been received from the apple-growing districts of Pennsylvania, Maryland, West Virginia, and Virginia. Some service has been given to these districts, but in no such organized way as in New York. Plans are under way, however, for organizing and extending the work in these States along lines similar to those in New York.

Having discovered that orchardists' forecasts were being used by the farmers, the Weather Bureau inaugurated in 1921 a harvest-weather forecast service to farmers for their guidance in the harvesting of hay, oats, wheat, and other crops. The project involves many unique features and in a way marks an epoch in the work of the Weather Bureau in service directly for the benefit of farmers. It is perhaps not so spectacular as the fruit-spray service, but from the standpoint of the number of individuals benefited, aggregate value of the crops affected, and total economic returns in prevention of losses, it far transcends the fruit-spray service.

Responsible persons having contact with the rural telephone lines were selected to act as distributors of these forecasts. They in turn secured the names and addresses of every farmer having telephone service, so that upon receiving the message, either by wire or telephone, they could immediately communicate with the farmers concerned. During the past season 35 counties were served, representing practically all of the important agricultural sections of the State.

WITH EXTENSION FORCES

ON THE TERRACE

A "silent" argument for terracing, County Agent John P. Gray terms his small model of a typical Greer County, Okla., farm of 160 acres, showing it properly terraced and drained. A State fair exhibit of the State specialist in farm engineering, W. H. McPheeters, gave him the idea, and his own adaptation was built last year with Mr. McPheeters' help.

He took 30 square feet in the courthouse grounds for his miniature farm and modeled it into a small replica of the rolling fields and hills and hillside ditches which characterize farms of that county. Then terraces were made on it, the walls of the ditches reinforced with rocks and concrete, and other necessary means provided for soil retention and

proper drainage according to Mr. McPheeters' suggestions. An interested hardware store provided fencing.

Rain is simulated by a lawn sprinkler which is turned on Saturdays and other days when a number of farmers are to be in town. After running the imitation rain for a few days each terrace shows the fine soil it has caught, allowing the clear water to flow on. There is also a miniature homemade V-drag used to build terraces on the farm to suggest how easily they can be built.

With the farm in good running order, the agent and the editors got together and prepared an item about the farm on the courthouse grounds which appeared in the county papers. The item closed with the suggestive remark that this would serve as an illustration of terracing for those who had not seen a terraced farm until they could find an opportunity to visit the farms in the county which had demonstration terraces on them. A list of these farms and their locations followed.

Four boys in the county with a liking for engineering were enrolled in a farm engineering club, studied use of instruments at the summer short course of the agricultural college, have bought two levels, and are helping the agent with terracing demonstrations.

Over 680 acres of farm land were terraced in Greer County last year.

KANSAS CITY U. S. D. A. CLUB

The regular monthly meeting of the Kansas City U.S.D.A. Club was held Friday, May 15, at the Kansas City (Kans.) Chamber of Commerce. Doctor Parker, of the Bureau of Animal Industry, gave a very interesting talk on tuberculosis as related to meat-inspection work.

After concluding the regular business of the club, the following officers were elected to serve for the ensuing year: P. Connor, United States Weather Bureau, president; Dr. F. A. Imler, virus serum control, vice president; M. Schuler, Federal grain supervision, secretary-treasurer.

BUFFALO U. S. D. A. CLUB

At the regular monthly meeting of the Buffalo U. S. D. A. Club on May 19, 1925, the following officers were elected for the ensuing year: President, Willis B. Combs, grain supervisor in charge, Bureau of Agricultural Economics; vice president, James F. Gibbons, livestock-market supervisor, Packers and Stockyards Administration; secretary-treasurer, Charles W. Pagle, jr., Bureau of Animal Industry.

BRIEF REVIEWS OF NEW BULLETINS

Control of Decay in Pulp and Pulp Wood. By Otto Kress, formerly in charge section of pulp and paper. Forest Products Laboratory. C. J. Humphrey, pathologist, and C. A. Richards, assistant pathologist, office of investigations in forest pathology; M. W. Bray, chemist in forest products, and J. A. Staidl, assistant engineer in forest products, Forest Products Laboratory. Forest Service, in cooperation with Bureau of Plant Industry. Pp. 80, pls. 20, figs. 5. April, 1925. (Department Bulletin 1289.) Price, 25 cents.

This bulletin aims at the reduction of losses occurring during the storage of pulpwood and pulp, a considerable proportion of which can be saved by slight changes in mill practice. A group of 33 interested mills subscribed to a fund which enabled the Forest Products Laboratory of the department to assign two pathologists and two chemists to the study of which this is a first report. The effects of both the fungi which merely discolor pulp—molds—and the true wood-destroying fungi are discussed, together with chemical deterrents and their application and methods of yard sanitation.

ADDITIONAL PUBLICATIONS

Hay and Feed Statistics, Year Ended December 31, 1924. With Comparable Data for Earlier Years. Prepared by the Bureau of Agricultural Economics. Pp. 114. April, 1925. (Statistical Bulletin 11.) Price, 15 cents.

Service and Regulatory Announcements. Bureau of Chancery. No. 192. Notices of Judgment 13051-13100. Pp. 25-53. May, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of May 18-23, 1925. Copies of these publications may be obtained from the stations issuing them.

Fig smut. E. H. Phillips, E. H. Smith, and R. E. Smith. (California Sta. Bul. 387, pp. 38, figs. 15. Apr. 1925.)

The almond in California. R. H. Taylor and G. L. Philp. (California Sta. Circ. 284, pp. 57, figs. 19. Apr., 1924.)

Thirty-sixth annual report of the Storrs Agricultural Experiment Station, Storrs, Conn., for the year ending June 30, 1924. W. L. Slate, jr., et. al. pp. 396, figs. 99.

Phyllosticta leaf spot, fruit blight, and canker of the apple: Its etiology and control. E. F. Guba. (Illinois Sta. Bul. 256, pp. 479-557, pls. 4, figs. 18. Feb., 1925.)

Tulip blossom blight. F. L. Stevens and O. A. Plunkett. (Illinois Sta. Bul. 265, pp. 297-307, figs. 8. Apr., 1925.)

Dairy barns and equipment. W. A. Foster and E. Weaver. (Iowa Sta. Circ. 93, pp. 31, figs. 22. Oct. 1924.)

Information regarding recent publications. (Kansas Sta. Circ. 111, pp. 4. Apr., 1925.)

The influence of ultra-violet light on nutrition in poultry. J. M. Murray, C. C. Little, and W. T. Boyie. (Maine Sta. Bul. 320, pp. 139-164, pls. 9, figs. 2. Dec., 1924.)

Experiments on the control of apple scab and black rot and spray injury in 1924. W. L. Doran. (Massachusetts Sta. Bul. 222, pp. 10. Mar., 1925.)

Spraying dewberries for anthracnose. W. C. Dutton. (Michigan Sta. Spec. Bul. 144, pp. 13, figs. 3. Mar., 1925.)

Report Raymond Branch Experiment Station, 1923 and 1924. C. B. Anders. (Mississippi Sta. Bul. 224, pp. 16. Dec., 1924.)

New knowledge.—One year's work, Agricultural Experiment Station (Report of the Director; July 1, 1923, to June 30, 1924.) F. B. Mumford. (Missouri Sta. Bul. 228, pp. 86, figs. 14. Jan., 1925.)

Fulghum oats for Missouri. L. J. Stadler. (Missouri Sta. Bul. 229, pp. 19, figs. 8. Jan., 1925.)

Testing fertilizers for Missouri farmers: 1924. L. D. Haigh. (Missouri Sta. Bul. 230, pp. 57, fig. 1. Feb., 1925.)

Blackberry, raspberry, and dewberry culture. H. G. Swartwout. (Missouri Sta. Bul. 231, pp. 24, figs. 11. Mar., 1925.)

Gooseberries and currants. H. G. Swartwout. (Missouri Sta. Bul. 232, pp. 12, figs. 6. Apr., 1925.)

Home-made labor-saving devices for the hog farm. J. C. Wooley. (Missouri Sta. Circ. 131, pp. 12, figs. 21. Dec., 1924.)

Report on southeast Missouri cotton experiment fields: 1924. B. M. King. (Missouri Sta. Circ. 132, pp. 4. Feb., 1925.)

Feeding baby chicks. H. L. Kempster. (Missouri Sta. Circ. 133, pp. 4. Mar., 1925.)

The spindle-tuber disease: One cause of "run-out" seed potatoes. H. O. Werner. (Nebraska Sta. Bul. 207, pp. 21, figs. 14. Apr., 1925.)

Progress of agricultural experiments—1924. A report of the Director of the New Hampshire Agricultural Experiment Station for the year 1924, including a financial statement for the fiscal year ending June 30, 1924. (New Hampshire Sta. Bul. 216, pp. 35, Feb., 1925.)

The comparative value of carbon bisulfide and other organic compounds as soil insecticides for the control of the Japanese beetle (*Popillia japonica* Newm.). W. E. Fleming. (New Jersey Stas. Bul. 410, pp. 29. Feb., 1925.)

The chemical composition of the soils of the Chatworth area in New Jersey. A. W. Blair and A. L. Prince. (New Jersey Stas. Bul. 414, pp. 15, figs. 2. Apr., 1925.)

Suggestions on queen rearing. H. B. Parks and A. H. Alex. (Texas Sta. Circ. 35, pp. 19, figs. 11. Feb., 1925.)

PREPARE SLIDES ON ROAD BUILDING

The Bureau of Public Roads announces the completion of several sets of lantern slides illustrating methods of constructing various types of roads suitable for use in highway courses in engineering schools and colleges and before technical audiences. Each set consists of from 30 to 50 slides and is accompanied by a syllabus of a lecture for use with the slides. The titles of the lectures are as follows:

Highway Grading.
Sand-clay, Topsoil, and Gravel Roads.

Bituminous Surface Treated and Penetration Macadam Roads.
Mixed Asphalt Pavements.
Portland Cement Concrete Roads.
Brick Road Construction.

The slides are available for use on specific dates for periods not to exceed four days except during the summer season, when loans may be extended to two weeks. The borrower is required to pay the cost of transportation by express from Washington and return. A single set of slides packed for shipment weighs 15 pounds. The bureau prefers to lend the slides one set at a time, but reservations may be made as far in advance as desired. The sets of slides have been circulated among a number of engineering schools and colleges during the past winter, and in several instances circuits have been arranged

among two or more engineering schools in the same section. These slides are not suitable for use in secondary schools.

As a result of the demonstrations on outward manifestations of good growth and nutrition in children, given to the nutrition specialists at the recent Eastern States extension conference, a similar demonstration was given at the last monthly staff meeting of agricultural college, experiment station, and extension workers of Louisiana State University, Baton Rouge, by Miream Birdseye, Office of Cooperative Extension Work. Children of members of the staff were used for the demonstration. Simple exercises for improving posture were given and a standard of food habits discussed. Mimeographed sheets were distributed showing pasture types and giving a food-habits standard and points which manifest good growth and nutrition.

Arrivals and sales of apples in the Liverpool market for a given period have been analyzed to determine what, if any, effect large shipments from the West coast via the Panama Canal has upon British apple markets. As a result, it is believed that the arrival of large refrigerator ships direct from the Pacific coast ports is not disastrous to the markets. Coincident with the arrival of these cargoes the market has shown additional strength in more instances than it has shown weakness.

LIVERPOOL ACCEPTS COTTON STANDARDS

(Continued from page 1)

cultural and Mechanical College, and also at Raleigh and Baton Rouge, will be given during June and July.

The department is now taking final steps looking toward the issuance of Federal grades for cotton linters, prepared by S. S. Meloy, as tentative standards for use during the coming crop season. A market news service giving f. o. b. prices on linters will also be established by the department on September 15.

The tentative standards for linters will be in use one year, pending the establishment of the grades under the cotton standards act. This will constitute a trial period for the grades in which to test their practicability and to make any changes that may be found desirable. The market news service will consist of the issuance of price quotations on linters on the basis of the Federal grades from the department's offices at Charlotte, N. C., Atlanta, Ga., Memphis, Tenn., and Houston, Tex.

PRINCIPAL LIBRARY ACCESSIONS

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Kempski, K. E. Die Landwirtschaft in Nieder-ländisch-Indien. t. 1. Weltvrede-Ba-tavia, G. Kolt, 1923.

Old books

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Tussock, Thomas. Five hundred points of good husbandry. London, 1683.

DOMESTIC ANIMALS

Bouges, L. C. Recherches sur les conditions optima de l'incubation artificielle des Loufs et poules. Toulouse, Marqueste, 1923. Thèse.

Naumann, E. F. A. Über die aufenthalts-zeiten der kartoffelernährung im magen-darm-kanal des rindes. Danzig, Bodenstern & Mielke, 1922. Inaug.-diss.—Berlin.

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North country garden club of Long Island. A list of the varieties of coniferous plants growing at Clayton, N. Y. [n. p.] 1924.

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Rivoire père et fils. Le guide du semeur. Lyon [19-?]

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Reid, John. The Scots gardner. Edin-burgh, 1683.

Robert, Nicolas. Variae ac multiformes forum species expressae ad vium et aeneis tabulis. Rome, 1665.

Sharrock, Robert. The history of the prop-agation and improvement of vegetables by the concurrence of art and nature. 2d ed. Oxford, 1662.

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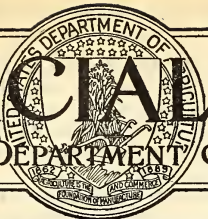
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JUNE 10, 1925

No. 23

ROADS AND RAILWAY SUBJECT OF ADDRESS

Secretary Jardine Stresses Problems of Transportation and the Highways

Tracing the developments in transportation facilities made within the last two centuries, and calling attention to the superiority of modern improvements over preexisting modes of travel, Secretary Jardine opened an address before the Mid-West Transportation Conference at Chicago, on May 28.

Of those new users of the highways which have sprung up from time to time in order to find a way to move persons and goods more expeditiously, more cheaply or with greater comfort, the latest is the motor vehicle. "Its reception by the public," said the Secretary, "has been of a kind with the welcome extended to all the earlier improvements in transportation facilities. There is no doubt of the warmth of that reception. In less than 20 years the number of motor vehicles has grown to more than 17,000,000. But, along with the praises that have been heaped upon it we have the murmuring of those who fear that it will lead us to no good end. Now we have reached the stage where the suggestions for restrictive regulation have begun to multiply, some of which are humorously similar to those which sought to curb the operation of the flying coaches.

Must Avoid Crippling Legislation

"I have faith that in the long run the motor vehicle will find its place in the whole scheme of transportation naturally and inevitably as have all the earlier 'new users' of the highways; but we may help it to find that place by wise restraint of its more enthusiastic proponents and by refraining from regulation which may have a crippling effect. * * *

"In the Department of Agriculture we have come to feel the need of facts very

keenly, because we have had imposed upon us by Congress the responsibility of administering the Federal highway act. We take that responsibility very seriously. As we view it our job is not merely the building of a large mileage of road. We look upon the roads as the means to an end, not as the end itself. The end is the improvement of transportation in the United States. * * *

"One thing we know very definitely—there is no basis for the fear that the motor truck is going to compete seriously with the railroads. The facts we have found in all our surveys are sufficient to convince me. The truck has found its place in the short haul, and it is not taking over any business that the railroads can do as well or better. * * *

Motor Trucks for Short Hauls

"The service is distinctly a service of distribution from centers. In the main it is a service which neither the railroads nor any other inflexible carrier limited to a fixed line of travel—whether it be a rail line or a water line—can render. It is a service which does not aim to move large bulk day after day and year after year between the same points. Its loads are picked up everywhere and hauled anywhere within the short-haul limit. It supplies materials for building operations to-day at one point, to-morrow at another. It distributes the daily bread directly to homes over an entire county. It supplies country stores with fresh meats, vegetables, with anything that needs to be fresh to be good. It collects milk from hundreds of farmers within a 50-mile radius of the cities and brings it to the city milk plant for pasteurization and redistribution. It is used by farmers collectively to send their truck to market and get back their city purchases. Within the short-haul limits it is taking some of this business away from the railroads, but it is taking it because it can perform better service. Nothing can prevent it from taking that business, and the railroads should be glad to see it go, because it never has really paid the railroads. * * *

(Continued on page 8)

DEPARTMENT MEN RECEIVE DEGREES

Doctors Mohler, Ransom, and Hall Honored this Month by Various Institutions

Three scientists of the Bureau of Animal Industry have been informed that they are to receive the honorary degree of doctor of science from the respective institutions from which they were graduated some years ago.

Dr. John R. Mohler, chief of the bureau, who already has the degrees of B. A., M. A., D. V. M., and D. Sc., will receive a second honorary degree of D. Sc. from the University of Pennsylvania at the commencement exercises, June 17, "in recognition of his long and distinguished service and of his accomplishments as a scholar." After a period of service in the field inspection and meat inspection, following his appointment in the bureau more than 28 years ago, Doctor Mohler was assigned to the laboratories of the pathological division at Washington. He became successively assistant chief and chief of that division and assistant chief and chief of the bureau, reaching the latter position December 10, 1917. Aside from important executive duties he has done notable research work in various branches of veterinary pathology and bacteriology and is the author of numerous publications in that field. Last June he received an advanced degree from the University of Budapest.

Invaluable Laboratory Developed

Brayton H. Ransom, B. S., M. A., Ph. D., chief of the zoological division of the bureau received the degree of D. Sc. from the University of Nebraska June 6. In the course of extensive investigations in parasitology Doctor Ransom has worked out the life histories of several animal parasites and has developed practical methods for the economic control of certain parasitic pests. As chief of

the zoological division since 1903, he has built up a laboratory known over the world for its output of scientific and practical work in medical and veterinary zoology, which is represented by an extensive literature.

Maurice C. Hall, B. S., M. A., Ph. D., D. V. M., zoologist in the zoological division, is to receive the degree of D. Sc. from Colorado College June 10. Doctor Hall has worked for the last 10 years on investigations of anthelmintics and has established the present veterinary practice and procedure in this field to a very large extent. He introduced carbon tetrachloride into veterinary medicine for the treatment of hookworm disease in dogs and brought it to the attention of the medical profession as of possible value in the treatment of human hookworm disease, leading to its extensive and successful use in the latter field. He has written more than 200 papers, books, etc.

Report Results of Research on Odorous Constituents of Cotton Plant

Dr. F. B. Power, chemist in charge of the phytochemical laboratory of the Bureau of Chemistry, presented to the National Academy of Sciences at a recent meeting in Washington, D. C., the results of research by himself and V. K. Chesnut on the odorous constituents of the cotton plant.

"The investigation was undertaken," says the report, "at the request of Dr. L. O. Howard, chief of the Bureau of Entomology, and the primary purpose was to ascertain the chemical character of the odorous constituents of the cotton plant. Inasmuch as this plant possesses a specific attraction for the boll weevil, it has been presumed that this was due to the emanation of some odorous substance which could be perceived by the insects at a considerable distance. It has furthermore been considered that if any odorous substance could be identified, which by chemotropic tests would be found attractive for the insects, it might be possible to produce it in sufficient quantities to permit of its use as bait."

Doctor Power reported that the concentrated distillate from the plant, which represented all its odorous and volatile constituents, was the product employed for their separation and identification. It was found to contain a large number of individual substances, including ammonia and trimethylamine. Both of these basic substances were likewise found in the dew collected from the leaves, and it has been shown that they are emanations from the living plant.

Although trimethylamine has been found by field tests to possess some attraction for the boll weevil, much more extended experiments in this direction have still to be undertaken by the entomologists.

Doctor Power stated that, "If the results of the present investigation should ultimately prove to be of practical utility in controlling the ravages of the boll weevil, they would seem to point the way to a new and larger field of research, for it is conceivable that the attraction which various other plants possess for certain insects may be due to some odorous substance exhaled by them."

New Smooth-Seed Strain of Pima Cotton Passes Tests Favorably

The outstanding recent achievement in the plant-breeding work with American-Egyptian cotton, which is conducted at the Sacaton station in Arizona, has been the development of a smooth-seeded strain of the Pima variety. The present commercial stock of the variety has rather fuzzy seeds, which make ginning on the roller gins somewhat difficult and expensive. There is, however, some variation from plant to plant in the amount of short hairs or fuzz on the seeds and, taking advantage of this fact, several individual plants having seeds almost devoid of fuzz, were selected in 1920.

A strain descended from one of these plants has proved to be uniformly smooth-seeded and appears to be in all other respects typical Pima, producing fiber of good quality. Careful ginning tests in comparison with the commercial stock have shown that seed cotton of the new strain can be ginned in one half the time required to gin an equal weight of seed cotton of ordinary Pima and the lint comes through the rolls in better condition, with less tendency to "ropiness."

Increased plantings of the smooth-seeded strain are being made this year with a view to the possibility of substituting it for the present commercial stock in case the results of further yield tests and spinning tests of the fiber indicate the advisability of such substitution.

Crosses between Pima and Sakel, the most valuable of the varieties grown in Egypt, have been under consideration also. Repeated comparison of the two varieties when grown under identical conditions in Arizona has shown a decided difference in the vegetative characters, the Pima plants being much less "limby" and having much better developed low-fruited branches than the

Sakel plants. Consequently, Pima produces a heavier bottom crop and out-yields Sakel in the earlier pickings. Since the growing season in the Southwest is none too long for the Egyptian type of cotton, this factor of relative earliness is an important one. On the other hand, the fiber of Sakel, although shorter than that of Pima, is considered by some spinners to be stronger and finer. A combination of the desirable plant characters of Pima with the fiber characters of Sakel therefore seems an objective worth striving for.

Several crosses of the two varieties have been made, and one of these, of which the sixth generation was grown in 1924, is not only fixed and uniform but seems to afford precisely the desired combination of the best characteristics of the parent varieties. The plants are almost devoid of vegetative branches or limbs, and are even earlier maturing than Pima. The fiber is similar to that of Sakel in length (averaging 1½ inches), strength, fineness, and color, and is more even on the seed. In abundance of fiber, as measured either by the lint index or the lint percentage, the cross is superior to either of the parent varieties.

Seed of this Pima-Sakel cross will be increased this year in order to obtain material for yield test plantings in 1926 and to supply fiber for spinning tests. Until such tests have been completed, the agricultural and commercial possibilities of this interesting combination remain a matter of conjecture.

The May meeting of the Los Angeles U. S. D. A. Club was held jointly with the Federal Business Association on May 13, at the Windsor Tea Room. Col. H. B. Hershey, in charge of the local office of the Weather Bureau was the principal speaker. He outlined the formation and early development of the Weather Bureau and gave many interesting facts regarding the scope of the work, the general methods used in forecasting, and the importance of weather and climate in the development and prosperity of a community. Announcement was made that Secretary Jardine would visit Los Angeles in June and that arrangements were being made to enable all club members to meet the secretary at a special meeting.

The American Association of Agricultural Colleges meets at Raleigh, N. C. July, 7-10. The program will center around the following topics, "The local community and the newspaper," "The editor and the extension service," and "Information for the farmer."

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

HIGHWAY MEETING IN NEW YORK

Highway officials of New York, New Jersey, Pennsylvania, Maryland, and Delaware will meet in New York City on June 15 to designate the important interstate roads in these States which will be uniformly marked as United States highways. The meeting is the outcome of the initial conference of the Joint Board on Interstate Highways composed of State and Federal highway officials which was held in Washington April 20 and 21. Regional meetings have been held in San Francisco, Kansas City, Chicago, and Atlanta, and the New York meeting will be followed by a last meeting in Boston on June 18 for the purpose of selecting the important interstate roads which, after coordination as between the various sections, will be known as United States highways.

CONDUCT NEW TYPE OF SURVEY

A study of the production, marketing, and consumption of farm products in Louisiana, and southern Mississippi is being made by the department, cooperating with Louisiana State University, the Mississippi Agricultural and Mechanical College, the New Orleans Association of Commerce, and other public agencies, to furnish an economic basis for production and marketing programs for improving farm conditions. The survey is one of the most extensive of its kind in which Federal and State agricultural and commercial agencies have cooperated. The work will be closely watched by public agencies throughout the country with a view to making similar surveys in other areas.

732 COW-TESTING ASSOCIATIONS

Seven hundred and thirty-two stars now adorn a map of the United States in the office of the Bureau of Dairying. These stars represent the number of cow-testing associations now throwing light on the milk and butterfat production of 307,073 cows.

FEDERAL GRADES FOR OATS

Federal grades for feed oats and mixed feed oats have been established by the Secretary of Agriculture, effective September 1, under the United States grain

standards act. These standards are in addition to grades for oats now in effect.

SUGAR BEET AVERAGE IN EUROPE

An increase in the acreage sown to sugar beets for the production of sugar is reported for both Germany and Czechoslovakia, while Denmark's acreage shows a decrease, according to a cable just received from the International Institute of Agriculture at Rome.

CLUB CELEBRATES ANNIVERSARY

Fifteen years of boys' and girls' club work was reviewed in Alamance County, N. C., on May 29, when this county celebrated the fifteenth anniversary of the organization of its first club. Since the organization of this first club nearly a thousand boys and girls have had practical training in farming and home-making activities in Alamance County's 4-H clubs and are now engaged in farming, home-making and other occupations. Many of these former club members attended the reunion. Especially interesting features of the program were talks given by these former club members, many of whom are now living on Alamance County's farms. Aside from the contribution to the work of introducing new improved practices in farming and home-making which this thousand boys and girls have made in the 15 years, an interesting evidence of their enthusiasm and persistence is the present Mebane fair, which is a direct development from the first small corn show which the early club members held in a rural school. This grew into a community fair and then into the annual event which is now participated in by three or four surrounding counties.

Several extension agents who had done extension work in Alamance County during the 15 years, members of the North Carolina extension service, and O. B. Martin, office of cooperative extension work, attended the meeting.

COUNTY AGENT SHOWS VERSATILITY

Proof that farmers consult the county agent and voluntarily make use of him just as the public does of other professional men such as lawyers, doctors, engineers, etc., is indicated by certain information obtained from the Office of Cooperative Extension Work. Some very interesting facts in this connection are disclosed in an excerpt from the office records of the county agent in Klamath County, Oreg., which gives the names of his office visitors between

March 15 and 31 of last year and the nature of the business regarding which they called. During these 13 working days, 171 people called at the county agent's office for information, the greatest number in any one day being 27 and the smallest number 5. These visits related to 74 different subjects, which indicates somewhat the versatility required of a county agent. A few representative purposes of the visits are road information; milk cows for sale; rations for dairy stock; organization of dairy and poultry associations; fruit trees desirable for Klamath County; poisoned oats for rodent control; Oregon accredited hatcheries having baby chicks for sale; certified seed potatoes; job wanted poisoning squirrels; registration papers for shorthorn bull; bulletins, Oregon Agricultural College and United States Department of Agriculture; sick calves and sheep; pigs for sale; contagious abortion in herd; potato contract for association; county fair; listed land for settlement; Oregon-Idaho cattle loan association; looking for a good farm on which to locate; method of applying sprays; cattle scab; alfalfa hay for sale; foot-and-mouth disease; help wanted on range; transfer of Jersey bull; prospectors for location of creamery; horticultural calendar advice; method of securing loan on dairy herd; county indemnity for condemned cattle; date for next milk test; lard set; fiber flax; information on Holstein cattle; rodent control; grasshopper campaign; coyote poison; get milk test bottles; location for commercial hog ranch; requesting contagious-abortion test; locate stolen grain scale; work of United States trappers; proper soils for potatoes; spray calendar and costs; irrigation of alkali land; effect of poisoned oats on turkeys. Some of the inquiries naturally are not related to the county agent's work, but are matters of which he is expected to have sufficient knowledge to be able to direct the inquirer to the proper source of information.

A growing interest in the use of lantern slides in county extension work, together with more frequent employment of local photographs in the presentation of subject matter, was noted by C. H. Hanson, office of cooperative extension work, in recent conferences with extension workers on the preparation and use of illustrative material in extension work. Mr. Hanson visited points in Wisconsin, Minnesota, Michigan, North Dakota, and South Dakota. A number of small-group meetings were features of the conferences in some of the States which gave excellent opportunity for round-table discussion of local problems.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Packers and Stockyards Administration

MEMORANDUM NO. 538.—May 28, 1925.—Mr. John T. Caine, III, has been appointed chief of the packers and stockyards administration, and Mr. G. N. Dagger has been designated assistant chief of this administration.

DR. GEORGE M. PAXTON

The death on May 23, 1925, at Little Rock, Ark., of Dr. George M. Paxton, veterinary inspector of the Bureau of Animal Industry, came as a shock to his many friends and associates. Doctor Paxton was taken seriously ill on the night of May 21, and was removed to the Baptist Hospital at Little Rock, where peritonitis developed and an operation was performed on May 23 from which he failed to rally.

Doctor Paxton first entered the bureau service as an agent in tick eradication in Arkansas on May 1, 1914, serving in this capacity for a short period. Following his graduation from the Kansas City Veterinary College in the spring of 1917, he re-entered the bureau service as a veterinary inspector on July 16, 1917, and with the exception of a period of absence for military duty from August, 1917, to December, 1918, during which time he served as a first lieutenant in the Air Service of the Army, he continued his bureau service to the time of his death.

Doctor Paxton's service in the bureau was almost entirely spent in connection with tick eradication work, in which project he served in the States of Arkansas, Florida, Texas, and Louisiana. He was inspector in charge of tick eradication activities in Louisiana from September, 1921, to February, 1925, when he was assigned to the duties of traveling

inspector for the tick eradication division, which position he held at the time of his death.

In the discharge of his official duties Doctor Paxton displayed intelligence, excellent training and skill. His genial and forceful personality brought him a wide circle of friends, and his zeal and success in public service made him a most valuable employee to the department.

Doctor Paxton was born in Iowa on April 23, 1885. He was unmarried.

MAILING LIST CHANGES

The mailing lists record section, office of information, announces the following changes in the mailing lists of the department.

Lists Established

Key No.	Bureau	Title of list
FNS-3.....	B. A. E.....	Foreign News Service on Hops.

Lists Discontinued

Key No.	Bureau	Title of list
323.....	B. A. E.....	Grain Dealers and Elevators.
324.....	do.....	Millers.

Prof. Koichi Ichikawa, of the University of Sapporo, Japan, was a visitor at the department for one day last week while on his way to Japan. Professor Ichikawa is one of the most distinguished of the Japanese students of cancer and has been carrying on researches in Paris for the last year and a half. He has published something like a dozen papers in French journals in the last two years on the subject of tar cancer. He has also published articles in the Journal of Cancer Research in this country.

Dr. Arthur Feiler, of Frankfurt, Germany, editor of the Frankfurter Zeitung and a member of the German economic council, recently called at the department. Doctor Feiler, who is said to have great influence in German political life, is especially interested in learning of the financial, economic, and social conditions of this country.

Dr. J. Hatori, biologist of Formosa, was a recent visitor at the department where he studied certain collections in the Bureau of Entomology.

The United States habitually exports from 12 to 15 per cent of its total production of pork.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is most of the Roquefort cheese made from cow's milk, goat's milk, or sheep's milk? What is the difference in quality?

Answer. Most of the Roquefort cheese is made from sheep's milk, smaller quantities are made from cow's and goat's milk. The difference in quality is mostly a matter of flavor caused by fats of varying composition.

Question. What is meant by the cut-out weight of canned foods and what is its purpose?

Answer. The cut-out weight of a can of sauerkraut, for instance, is obtained by draining the contents of the can on a piece of one-eighth-inch mesh screen for two minutes. The Bureau of Chemistry after many experiments has determined the cut-out weights of many foods put up in water, sirup, or brine; that is, it has determined the amount of solid material that a properly filled can of a certain size will in general yield. Where the drained weight falls below the figures announced by the bureau, the indication is that water, brine, or sirup has been substituted for food. In all cases the can should be filled as full as practicable with food without injuring the quality and appearance of the contents.

Question. Has the Bureau of Public Roads conducted any investigations to determine the location of automobile accidents? If so, was it found that more occurred on grades or on curves?

Answer. Yes. The bureau conducted a limited study of automobile accidents on the rural highways in the States of Montana, Oregon, and Washington during nine months of the period from September, 1923, to September, 1924. Contrary to other published data, the greatest number of accidents in this territory occurred on curves and the next largest on grades which may be on curves or on straightaways. The number of accidents on the tangents occupies third place. The mountainous character of the country in these three States and the consequent large number of curves may account for the greater number of accidents on the curves. It is conceivable that in the Middle West the greatest number would occur on the straightaways. The grand total curved length of roadway in the State compared with the grand total straightaway length may be an important factor in determining where the greatest number of accidents will occur.

Seventy-five volumes of "Women's Wear," a New York daily published by the Fairchild Publishing Co., and covering, as the title indicates, dress and fashions in women's apparel, were presented to the department through the courtesy of the Fairchild Co. The set has been turned over to the library of the Bureau of Home Economics and will be kept up to date by the publishers.

Ton-Litter Contests Prove to be of Increasing Interest

Nineteen States last year conducted ton-litter contests, first introduced in two or three Central Western counties a few years ago as a means of stimulating interest in better breeding stock and improved methods of hog feeding and management. Over 439 litters, according to reports of animal husbandry specialists on the various State extension staffs, had passed the 2,000-pound goal at the age of 180 days, when the reports were made, while a number of contests were yet under way.

The highest weight reported for any litter is 4,291 pounds, attained by a litter of 14 pigs produced in Potter County, Tex., which is said to be a world record. Pennsylvania's highest weight litter, containing 15 pigs, comes next with a total weight of 3,461 pounds; the third heaviest, however, was produced by a Colorado farmer, averaged second in weight per pig, the 12 pigs averaging each 280.7 pounds. Eight of the 19 States report a litter weighing over 3,000 pounds, Texas, Pennsylvania, Colorado, Illinois, Kentucky, Minnesota, Michigan, and Washington. Other producers of heavy-weight champions were Georgia, Idaho, Indiana, Mississippi, Missouri, Ohio, Oklahoma, Tennessee, Virginia, Wisconsin, and Wyoming.

The fact that all litters making the goal carried a preponderance of pure breeding and averaged nearly 11 pigs per litter is significant.

It is interesting to note that Washington's champion litter was produced by a club boy, Fred Gray of Spokane County. He not only produced 3,055 pounds of pork from a 12-pig litter in six months, but because of the excellent finish of his stock received 25 cents a hundred pounds premium when he sold his prize winners to a local packing house. His records show an average daily gain per pig of 1.4 pounds at a cost of less than 8½ cents a pound, not including alfalfa pasture to which the pigs had access at all times. The selling price was \$11.10 a hundred.

While most of the winning litters contained over 10 pigs each, Pennsylvania states that a 9-pig litter made the highest net income in that State, \$13.80 per pig, a total of \$124.28. The profit per pig in that State varied from \$3 to \$13 and profit per litter, from \$30 to \$100. Illinois with 63 ton-litters reports all were profitable. Oklahoma winners averaged about \$6 per pig profit with \$13.30 as highest. Indiana had one litter bringing a net income of \$66.38. Colorado

profits went up as high as \$77 on one litter. One Tennessean cleared \$88.00, and the one Wyoming litter which had finished at the time of reporting, gave its owner a net profit of \$114.18.

Interest is apparently increasing in these contests and new sections will be represented in this year's records, judging from present enrollments. More attention, also, is evidently being directed to the economic features of the projects.

LOOK FOR FRUIT FLIES IN ARGENTINA

South America, especially Argentina, furnishes the United States with certain fruits during our winter season. In as much as there were records indicating the possible occurrence of the Mediterranean fruit fly in portions of Argentina, it became necessary to determine definitely whether the classes of fruits which it was proposed to export to the United States from that country were grown in infested areas and were subject to attacks by this pest. For the purpose of making such determinations, George F. Moznette, under the auspices of the Federal Horticultural Board, spent a portion of January, all of February, and a portion of March in Argentina investigating the important fruit-producing districts in that country. Mr. Moznette found no trace whatever in any of these districts of the Mediterranean fruit fly. He did, however, discover in certain northern districts of Argentina the West Indian fruit fly, a much less injurious species, and one known to be generally prevalent in the West Indies, Mexico, and Central America. On the basis of these findings, permits will be issued under Quarantine No. 56 for the entry at northern ports of the United States of Argentine fruits not attacked by this fly or from districts not invaded by it, under the conditions of inspection at port of arrival which are now being enforced.

Mr. Moznette spent a short time in Chili and Peru, but was unable to stay long in either country. During his short stay, however, he found no indications of the presence of fruit flies there.

G. S. Gordeeff, of the Agricultural Academy of Temeriaseff, Moscow, is spending some time in the department studying land problems in connection with tenancy and credit.

Dr. H. L. Dozier, entomologist of the Porto Rican Experiment Station, spent about two weeks recently at the department conferring with specialists of the Bureau of Entomology and examining collections of insects.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Kansas.—Harry E. Moxley has been appointed county agent for Labette County to take the place of E. H. Moss, and James L. Farrand, county agent for Hodgeman County, to take the place of Ray L. Graves, who has been transferred to Harvey County. A. B. Kimball, former county agent for Harvey County, has been transferred to Smith County, and J. J. Morley has been appointed county agent for Brown County. A. W. Knott, dairy husbandry specialist, has resigned.

Nevada.—William Barrows has been appointed assistant county agent for Elko County, and Paul Maloney assistant county agent for Washoe County.

FORTHCOMING CONFERENCES

The annual conference of Kansas extension workers will be held October 19 to 24.

NEW DEVELOPMENTS

The extension service of the University of Minnesota has just announced a new project known as the Minnesota carload baby beef contest. The 15 baby beeves included in each carload entered are to be bred and fed by the contestant. The contest which closes when the calves in each carload reach an average age of 450 days (15 months), is open to any farmer in the State. For the 1925-26 contest the calves must be dropped between February 1 and July 31, 1925. Fourteen cash prizes, ranging from \$150 to \$10 have been offered by the packers, commission companies, and Union Stock Yards Co. on the South St. Paul market, and the Minnesota Livestock Breeders' Association, the awards being made on the basis of heaviest weight attained at the close of the period.

The objects of the contest are: (1) To encourage beef producers of the present time; (2) to locate the most successful baby beef producers in the various counties as well as in the entire State who may be used as local demonstrators; (3) to link up the producer with the county agent, extension division, experiment station, and markets; (4) to offer an advanced project to boys who have completed their baby beef club work; (5) to secure information on the best methods to follow in growing and fattening baby beeves; (6) to determine the type of sire to use in producing baby beeves; and (7) to locate the poorer beef cows in the herd so that they can be culled out.

WITH EXTENSION FORCES

PINE AND BOYS COMBINE

One year is not long in the life of a tree, but it has proved a sufficient length of time for New Hampshire boys to find that they like forestry club work and for their fathers to decide that the work deserves their strong indorsement.

Four forestry clubs were organized in that State last year, in which 48 boys worked on "pine woodlot" management demonstrations. Some planted seedlings and others improved the standing woods. In the latter case, some worked on woodlots of one-half acre or more having pine stands under 10 years of age where they freed the young pine growth from older or undesirable trees. Others worked with quarter-acre stands of pine between 10 and 30 years of age, removing undesirable trees in order to concentrate growth in the more valuable ones. The remainder made cuttings in stands over 30 years of age to increase the rate of diameter growth and the total production of the stand.

Each boy was expected to keep a complete record of the work done, including hours worked, costs and receipts, and to make a drawing showing the location of his lot and the nature of the work done. A narrative telling what was done and how, together with interesting things that happened in connection with his work and the things he enjoyed most in carrying on his demonstration, completed the record part of the club member's enterprise.

The thinning demonstrations aroused much enthusiasm among the boys who conducted them. One Hillsboro County boy wrote in his report, "After I had thinned the one-quarter acre, I wished that I could do the entire lot of 2 acres as the comparison showed that it needed it badly."

General directions were prepared covering the subject of thinning, but it was necessary to supplement these with verbal instructions when the lots were visited, as each presented some different problem to solve.

Over 13,000 seedlings were planted during 1924 by the boys enrolled in this phase of the work.

County and State contests have been arranged for the 1925 season through the cooperation of the Society for the Protection of New Hampshire Forests which has provided the prizes. Forestry club boys took an active part in the celebration of the 1925 National Forest Week, planting about 25,000 seedlings.

Parents' approval of the work is shown by the fact that a number have

deeded land this spring to their sons who have joined forestry clubs. These young people may be more easily interested in forest planting, perhaps, than those of middle age, since they may expect to reap benefits from it personally. "Pine and New Hampshire boys make a good combination, as these fathers have seen," says C. B. Wadleigh, State club leader of New Hampshire extension service.

N. Y. U. S. D. A. CLUB

The regular monthly meeting of the Nysuda Club was held May 13 with luncheon, at the Pig and Whistle Inn. The meeting was addressed by Arthur S. Thatcher, a former chemist in the department, now superintendent of the Loose-Wiles Biscuit Co. Mr. Thatcher talked interestingly of the chemist's problems in the biscuit industry, and of the value of his contacts with the scientific and law enforcing agencies of the Department of Agriculture and other Government departments.

Dr. H. B. Shaw, chairman of the committee on information, reported that since the last meeting he had arranged for the following radio talks from Station WNYC: May 9—W. H. Stanton, Bureau of Agricultural Economics, on "Handling fruits and vegetables in the dark." May 16—B. F. McCarthy, Bureau of Agricultural Economics, on "Meet the meat man." Doctor Shaw spoke of the possibility of further educational work in addressing classes of high-school pupils in the New York City schools on the activities of the department. He stated he had received one request for such a talk from a Long Island high school. Doctor Shaw reported that the management of Station WNYC was very much pleased with the series of talks which had been given.

Frank G. Ashbrook, in charge of the fur resources division of the Biological Survey, has been awarded a prize of \$100 offered by Goodman's Fur Dye-Gest for the best suggestion for the improvement of the fur industry. Mr. Ashbrook suggested among other things a closer cooperation between the National Association of the Fur Industry, State legislatures, sportsmen, trappers, and the Federal Government.

Dr. Peter P. Suschkin, of Petrograd, Russia, honorary fellow of the American Ornithologists' Union and representative of the Academy of Natural Sciences of Petrograd, was a visitor in the offices of the Biological Survey on June 1.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

OFFICE OF THE SOLICITOR

The legal work of the department is transacted in the office of the solicitor and embraces within its scope practically every phase of the practice of law from personal, informal advisory conferences with department officials and employees to the trial of cases in the courts, in cooperation with the Department of Justice.

Congress has committed to the Secretary of Agriculture for administration upwards of 45 statutes comprehensively dealing with a like number of the country's activities, of a business character and otherwise. Types of such statutes are the food and drugs law, the insecticide and fungicide and the meat inspection laws, the cattle and plant quarantine laws, the migratory bird law, the national forest laws, the agricultural experiment station laws, the grain standards, warehouse, cotton futures, and cotton standards laws, the packers and stockyards and grain futures laws, the naval stores and the virus, serum, and toxin laws, and the seed importation and honey-bee importation laws.

Inevitably in the administration of so many specialized statutes legal questions arise ranging in importance from their constitutionality and interpretation down to their application to particular facts. It is with reference to such questions that the office of the solicitor is able to render important service to the department.

In its advisory capacity the office is in constant touch with the administrative officials of the department, either in personal conferences or through formal or informal memoranda.

At each of the six western headquarters of the Forest Service the office of the solicitor is represented by a district law officer, who transacts not only the legal business of the Forest Service in his district but also such other legal business of the department as may be brought to his attention. A corps of title attorneys, stationed at various points in the Eastern States, is maintained to examine titles to lands proposed to be acquired by the Secretary of Agriculture under the law of 1911 for the protection of the navigability of navigable streams.

C. F. Stahl, who is connected with the Tropical Research Foundation in Cuba, was a recent visitor at the department.

BRIEF REVIEWS OF NEW BULLETINS

Some Economic Aspects of Farm Ownership. By Charles L. Stewart, agricultural economist, Bureau of Agricultural Economics. Pp. 24, figs. 5. May, 1925. (Department Bulletin 1322.) Price, 5 cents.

Investment in farm lands in the spring wheat section of North Dakota over the 25-year period ended 1920 was more profitable for the owners than an investment in farm mortgage loans would have been during the same period in the same section, declares the department after a study of the situation affecting a large number of farms in that area. The study shows that the economic position of the owners was steadily strengthened in spite of the fact that the physical yield of wheat, which was the principal crop, steadily declined. The upward trend in the increment in land value, in net rent, and in value per bushel of the crop produced was stronger than the upward trend in overhead and operation costs.

Bamboos: Their Culture and Uses in the United States. By B. T. Galloway, office of foreign seed and plant introduction, Bureau of Plant Industry. Pp. 46, pls. 14. May, 1925. (Department Bulletin 1329.) Price, 20 cents.

During the past 25 years the department has imported into this country for study and possible adaptation to culture more than 60 kinds of bamboo. A number of small groves have been established, the most noteworthy of which is the department's experimental grove 14 miles south of Savannah, Ga. This grove is now more than 30 years old, covers more than an acre, and many of the plants are 50 to 60 feet in height. It is planned to conduct a large part of the future bamboo propagation work at this place. If small groves are developed on farms in those States where bamboos will thrive, the department believes that with proper handling, they will eventually prove not only a source of profit but would be the means of providing many conveniences for the farm home, such as light fences, trellises, bean poles, pea stakes, stakes for flowers and young trees, fish poles, and water-carrying pipes.

Making and Using Cottage Cheese in the Home. By Kenneth J. Matheson and Jessie M. Hoover, Bureau of Plant Industry. Pp. 14, figs. 6. May, 1925. (Farmers' Bulletin 1451.)

Cottage cheese is a highly nutritious and palatable product, according to this bulletin, and is a means of utilizing skim milk to excellent advantage. It can be manufactured on the farm and in the home with but little labor and expense. Directions given in this bulletin for manufacturing cottage cheese are suitable for making it for use in the home or for marketing on a small scale. Recipes are also given for the use of cheese on the table in both the cooked and uncooked forms, as well as its use in the preparation of various appetizing dishes.

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Cost of Producing Field Crops, 1923. Corn, wheat, oats, potatoes, and cotton. By M. R. Cooper, associate agricultural economist, and C. B. Hawley, assistant in farm statistics, Bureau of Agricultural Economics. Pp. 28. May, 1925. (Department Circular 340.) Price, 5 cents.

Soil Survey of Allegany County, Md. By O. C. Bruce, and A. M. Smith, of the Maryland agricultural experiment station. Pp. 28,

fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

Soil Survey of Boone County, Nebr. By F. A. Hayes, and J. S. Faine, of the United States Department of Agriculture, and H. C. Mortlock and M. H. Layton, of the Nebraska soil survey. Pp. 52, fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

Soil Survey of Des Moines County, Iowa. By T. H. Benton, of the Iowa agricultural experiment station, and E. F. Lowe, of the United States Department of Agriculture. Pp. 36, fig. 1, map. (From F. O. Soils, 1921.)

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The Bureau of Entomology reports that the first airplane dusting of a commercial peach orchard for the control of an insect pest took place at Montezuma, Ga., March 23, 1925, when, in 1 hour and 55 minutes, 10,000 peach trees were dusted with a mixture of arsenate of lead and hydrated lime. The recorded time included that spent in making trips to the landing field to refill the hopper, etc. It is planned to treat a thousand acres of peach trees during the season by airplane in Georgia under the supervision of the Fort Valley laboratory of the bureau, in order to obtain data on the results, cost of operation, and similar information.

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ISSUE CIRCULAR ON LEADERSHIP

Development of local volunteer leadership is discussed in a mimeographed circular prepared by Gertrude L. War-

ren. office of cooperative extension work, issued recently for the use, primarily, of extension agents who are interested in developing such leadership in boys' and girls' club work. Indices which may aid the agent in the selection of local leaders, a suggestive outline of leaders' functions, a brief discussion of some inherent traits common to young people which it is desirable for these leaders to understand, and some causes of limited work of leaders are presented. Objectives of leadership training and the main ways through which extension agents may give systematic training to volunteer leaders, measures of the effectiveness of their work, and tests by which agents may gauge their own progress in the development of local leadership are discussed. A list of books and other literature of value in the work is included. Copies of the circular may be obtained from the office of cooperative extension work.

(Continued from page 1)

ROADS AND RAILWAY SUBJECT OF ADDRESS

"I am glad to see that its usefulness in these fields is being recognized by railroad officials. I am especially interested in the experiments now being made by the Pennsylvania Railroad in which the motor truck is being used as a co-ordinated agency for the handling of local less-than-carload freight. Operating on the zone-station principle, by which full cars of package freight are shipped to the zone stations and from these delivered to the intermediate stations by motor truck, I am told that the company has been able to speed up its local package service and reduce by 75 per cent the damage to goods in transit. In addition it is hoped that the selection of the zone stations in such manner that the trains will not have to cross over against the stream of traffic will materially increase safety in train operation. * * *

Highway Surfaces Improved

"There is one other popular idea I feel disposed to deny. That is the idea that motor trucks are destroying our roads. I don't know why it should need denial, but apparently it does. Look around you. Are the roads getting better or worse? Have we ever before had such fine ones or so many of them? Have we ever before had fewer of them in a state of disrepair? Well, there are now as many motor trucks using these roads as there were of all kinds of motor vehicles 10 years ago, but the cost of the roads per ton-mile of traffic is far less now than it was then. This has

been accomplished, first, by the really notable improvements that have been made in the design of highway surface; second, by the building up of efficient administrative and engineering organizations; and, third, by the greatly increased use, which far exceeds the increase in the cost of the roads. * * *

"The roads we are building now are built to accommodate the traffic they will be called upon to carry, as determined by detailed surveys such as I have described. And they are maintained. They wear out just as rails and locomotives and motor trucks wear out, but they are not destroyed.

"In the field of passenger transportation the public has already given abundant evidence of its intention. There is no arguing the meaning of the 15,000,000 automobiles now operating on the fast-improving roads. The people want the kind of individual transportation which these vehicles supply. Doubtless a part of this service would otherwise be furnished by the railroads. There is evidence, indeed, that the passenger movement on certain branch lines of railroads may be so reduced as to be no longer profitable. But, in the main, I think it must be conceded that the automobile is functioning in a transportation field of its own, and is gratifying wants which could not have been met by the railroads. * * *

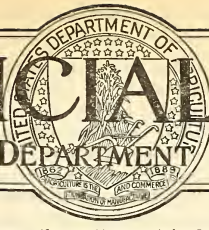
"Railroad, waterway, and highway transportation should be coordinated in order that each shall be developed to its highest point of usefulness without taking from another the functions which the other can perform to the better advantage of the public. Shippers and officials of transportation agencies must cooperate to eliminate unnecessary handling and reduce the time and cost of transportation. And finally we must develop a spirit of cooperation between the public and those who are working to improve transportation whether it be railway, waterway, or highway transportation, to the end that the public needs will be met to the fullest possible degree and that a fair return upon the invested capital shall be assured to the agencies of transportation."

The total quantity of meat consumed in the United States has increased steadily each year for the last six years, but the ever-increasing population reduced the per capita consumption about 1 pound in 1924 compared with the previous year. Per capita consumption was 164.9 pounds exclusive of 15.8 pounds of lard.

Indications point to a somewhat shorter supply of meat for the next year or two at least.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JUNE 17, 1925

No. 24

WHEAT CROP SMALL OATS AND BARLEY BIG

Forecast Last Week also Shows Small Apple and Lower Peach Production

The total forecast wheat crop of this year, as announced last week by the Crop Reporting Board, is the smallest since 1917. Oats, on the other hand, promises the biggest crop ever raised with the exception of that of 1921. The barley outlook is even better, for a much larger crop than ever before, except for two war years, is forecast.

Several factors have contributed to the diminution in the wheat forecast. In the winter-wheat belt the average May temperature was below normal and the rainfall deficient, emphatically so in certain parts. Weakened by an adverse winter, the plant could not make the usual resistance to frosts and freezes, low rainfall, and deficient moisture. The Hessian fly in parts of Illinois, Missouri, Nebraska, and Kansas, the chinch bug in Missouri, and the "take-all" disease in Kansas also played their part in destructiveness.

Spring Wheat Supplants Winter Wheat

As a partial offset to the reduction of winter-wheat acreage, the spring-wheat acreage increased 19 per cent. The replacement of abandoned winter wheat by spring wheat was particularly marked in the Pacific Northwest. Temperatures have been favorable and the rainfall ample.

The forecast of a large oats crop shows an increase of 4.7 per cent over last year. This was due in part to the fact that some of the large abandoned winter-wheat acreage was sown to oats. As a rule, increases were not large in the main oats States.

The acreage of barley is estimated to have made the large increase of 24.6 per cent this year. With the exception of 1917 and 1918, when war con-

ditions demanded an increased acreage, the forecast of the barley crop this year is the largest ever. As the feeding of this grain to livestock is becoming more general, the problem of marketing this huge crop will not be an alarming one.

Apple Outlook Poor

The outlook for apples is poor. The condition of the prospective apple crop on June 1 was 63.4 per cent of normal, a little more than 10 per cent less than the crop of last year. Reduced formation of fruit buds in 1924 for the 1925 crop on account of drought on the Pacific coast, a poor set of fruit this year in other parts of the country because of frosts and freezes, and a heavy drop have all been responsible for this large decrease.

Nor will we be much better off as far as peaches are concerned. The peach crop forecast, although slightly above a five-year average, will probably be about 6,000,000 bushels less than last year. Although the forecast is lower than the crop of last year in nearly every State, it is much higher in California, where a quarter of the crop of last year was produced, and a third of the crop of this year will be produced according to the forecast.

A tentative series of lantern slides which illustrate some of the most important practices in profitable production of cotton under boll weevil conditions is being sent to the extension services of several cotton growing States by the office of cooperative extension work for study and comment. The series is planned to supplement department bulletins and circulars and farmers' bulletins on cotton growing and at present includes about 40 slides. A study of this tentative material, it is hoped, will enable the State staffs to make definite suggestions for additional illustrations which could be obtained in their territories to strengthen the series. Arkansas, North Carolina, and Tennessee extension services now have duplicate sets of this material.

SOYBEAN GROWERS TO MEET IN EAST

Members of National Association Will Visit Washington, College Park, and Virginia Farm

In view of the extensive work being done with soybeans by the department at the Arlington Experimental Farm, Va., the National Soybean Growers' Association at their winter meeting voted to hold their sixth annual field or summer meeting at Washington, D. C. Invitations were extended to the association by the soybean growers of Virginia and Maryland to hold the 1925 meeting in the East. The meeting is to be under the direction of a committee from the Maryland Experiment Station, Virginia Crop Improvement Association, and the department. At a recent meeting of this committee the first three days of September were decided upon as the most suitable dates to view soybean fields and experiments in this section.

Will Inspect Arlington Farm

The first meeting, Tuesday, September 1, will be held at Arlington Experimental Farm, Va., just across the Potomac River from Washington, D. C. The entire day will be spent at this farm inspecting about 75 acres of soybeans under test, including more than 1,000 variety selections, and viewing other lines of plant-industry work. Arlington Farm, which adjoins Arlington National Cemetery, is part of the Gen. Robert E. Lee estate, the history of which goes back to colonial days. In the evening the association will meet to take up a program in which topics of special interest relating to the soybean industry will be discussed.

On Wednesday, September 2, the growers will be at the farm of Harvey S. Clapp, president of the Virginia Crop Improvement Association and a prominent Virginia soybean grower. This farm is George Washington's old Union

farm and is about 1 mile from Mount Vernon, Washington's home. In the large fields of soybeans there will be special culture and inoculation tests and harvesting demonstrations. Arrangements are being made to visit Mount Vernon in the afternoon.

On the third day, September 3, the Maryland Experiment Station will entertain the growers at College Park, Md., where, in addition to the inspection of soybean work in the fields, there will be a discussion of topics by growers from different sections of the country.

Soybean growers from all over the United States will attend these meetings. Reports from various sections indicate much interest in the meetings and a large attendance. The time comes when growers can take a few days off for vacation and offers an excellent opportunity to get acquainted with growers from other sections, to exchange ideas, and to visit Washington and other historic points.

Established Five Years Ago

The National Soybean Growers' Association was established at the first field meeting, September 3, 1920, at the Fouts brothers farms near Camden, Ind. More than a thousand growers and experiment-station men from a half dozen States attended this meeting. Since then a winter meeting, at the International Livestock Exposition, as well as a summer or fall field meeting, has been held each year.

The second field meeting was held in Illinois in 1921 at the College of Agriculture and the Meharry farm near Tolono, the college and the Champaign County Soybean Growers' Association cooperating. The third was conducted by the Missouri College of Agriculture at Columbia. The 1923 meeting was held at the Wisconsin College of Agriculture and the fifth at Ames, Iowa.

Tests Show Length of Time Seeds Retain Their Vitality

Great interest is often attached to the question of longevity of seeds. The belief has frequently been expressed that, when buried, they would keep indefinitely, but this has never been substantiated by proof. According to the Bureau of Plant Industry, the greatest length of time which seeds have been known to retain their vitality in soil is 40 years. This length of time was established by the buried seed test which Dr. W. J. Beal carried on at the Michigan Agricultural College, and the results of

the test, at the end of 40 years, showed that approximately one-half of the kinds of seeds planted germinated.

In a similar and more extensive test, which has been carried on at the Arlington Farm by the seed-testing laboratory, Bureau of Plant Industry, approximately one-half of the kinds planted were found to germinate at the end of 20 years, the length of time which had elapsed when the last samples were taken up.

The longest authenticated length of time which seeds have been known to retain their vitality when not buried in the ground appears to be 105 years. Ewart, in his article in the proceedings of the Royal Society of Victoria, Volume XXI, Part I, refers to two lots of seed, both known to be 105 years old, *Goodia lotifolia* and *Hovea linearis*, which were found to germinate. He also cites many other kinds of seeds which germinated at varying ages up to approximately 50 years.

Seeds of *Nelumbo nucifera* taken from a loess soil in the former flood plain of the Pulantien River in southern Manchuria were all found by Ohga to germinate. He estimates the length of time these seeds had been in the ground as not less than 120 years and probably 200 to 400 years.

From time to time stories have been circulated to the effect that seeds taken from ancient tombs, cliff dwellings, and similar places have been found to be alive. Department specialists know of no evidence sustaining these stories.

According to information received by the Biological Survey, one pocket gopher recently caused a break in an irrigation ditch at Yuma, Ariz., which cost more than \$2,000 to repair.

The Wool Standardization Committee of the United States, of which George T. Willingmyre, Bureau of Agricultural Economics, is chairman, will sail for England about September 1 to confer with British wool interests regarding the correlation of average Bradford grades and the official wool grades of the United States.

Federal hay inspectors from the eastern district are in Washington this week familiarizing themselves with the new alfalfa grades. The work is being conducted in the form of a training school held at the laboratory of the Hay, Feed, and Seed Division of the Bureau of Agricultural Economics, 339 Pennsylvania Avenue NW.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arkansas.—Frances L. Davis has been appointed home demonstration agent in Pope County to succeed Mrs. Zealia B. Jackson, resigned. R. L. Anderson, predatory animal hunter, has resigned to accept a position with the Biological Survey in New Mexico.

Ohio.—Frank Sandhammer, for the past four years county agent in Champaign County, has submitted his resignation to take effect July 1. By the appointment of Emma E. Sparks, Darke County has been added to the list of counties with home demonstration agents. E. H. Bond has succeeded M. L. Howell as county agent in Henry County, and R. Q. Smith has been appointed as county agent in Butler County to take the place of Walter D. Hunnicutt, resigned.

NEW LEGISLATION OR COURT DECISIONS

There was an increase of \$14,550 in the last six months in county court appropriations for extension work in Missouri.

FORTHCOMING EVENTS

The annual conference of Arkansas extension workers will be held at Fayetteville August 15 to 18, inclusive. The Smith-Hughes teachers will hold a conference at the same time, and there will be two joint sessions of one-half day each of county agents and Smith-Hughes teachers. The Arkansas Club Congress will be held at the State fair the second week of October, and the State fair has made plans for a club building with dormitories and an auditorium to take care of about 350 boys and girls.

Because of its burrowing and feeding habits, the ground hog is considered in most localities an undesirable resident, and to make matters worse its "weather predictions" on the 2d of February are no longer taken seriously. "Ground-hog day" thus bids fair to disappear in States where the habits of this rodent run counter to the interests of the farmer, and in such places ground hogs, or woodchucks, or marmots, as they are variously termed, will face forcible ejection if necessary. In places where they do little harm they may be allowed to live in moderate numbers for use as game and food.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

AMENDS COTTON REGULATIONS

Amendments to regulations under the United States cotton futures act, reducing the transfer unit of certificated cotton between markets for delivery on future contracts from 100 bales to 25 bales, effective June 15, were announced June 9 by Acting Secretary of Agriculture R. W. Dunlap. Other changes in the regulations provide for the establishment of a board of cotton examiners at Houston, Tex., and for the sale of practical forms of the universal cotton standards.

RESTRICT PORTO RICAN IMPORTS

As a step toward keeping certain injurious fruit and vegetable insects, including the West Indian fruit fly and the bean-pod borer, out of the United States, the Secretary of Agriculture has placed a quarantine (which will become effective July 1, 1925) prohibiting the entry of certain fruits and vegetables and restricting the entry of others from Porto Rico. Provision is made for the unrestricted entry of grapefruit, oranges, and other citrus fruit, pineapples, bananas, plantains, avocados, dasheens, and onions without permit, but under certification. This certification will be based on field and packing-house inspection by representatives of the Federal horticultural board in Porto Rico.

LIVESTOCK STANDARDS NEEDED

Use of standard market classes and grades for livestock is urged by the department as one means of reducing distribution costs in the industry and of assisting the producer in learning the kinds of animals the market demands and why some bring more money than others.

BIG GAME ANIMALS ESTIMATED

More than 687,000 head of big game animals make their home on Uncle Sam's 159 national forests, announces the Forest Service of the department which has just completed the compilation of a count made in 1924. Compared with the previous year the 1924 figures represent an increase of about 44,000 head after due allowance is made for 44,300 head of bear which were not included in the estimates of former years,

but which are included in the 1924 estimates.

MAY IS LESS FAVORABLE FOR CROPS

Following an unusually long period of mild, open weather for the season, extending through the months of February, March, and nearly all of April, there was a reaction to cooler over the eastern half of the country in the closing days of April. Low temperatures for the season prevailed, especially in central and northern States, during most of May. There were frequent occurrences of more or less frost damage, particularly to tender truck and garden crops, from the central valley States northward.

Rare Scientific Pamphlet Obtained by Department Library

Bacteriologists will be interested in the recent procurement by the department library of a photostatic copy of a rare pamphlet entitled "I generi e le specie delle batteriace—Prodrromo sinottico per il conte Vittore Trevisan di Saint Leon," published in Milan in 1889, which culminated 17 years of effort on the part of the library to obtain it.

For some time previous to the embarkation of the library upon this quest efforts had been made on the part of one of the bacteriologists of the department to obtain a personal copy of the pamphlet. All attempts to secure the publication through various foreign book dealers were unsuccessful, and it was likewise impossible to find a copy in any library in this country. An exhaustive search for the pamphlet was also made during a number of years by Dr. R. S. Breed of the New York State Agricultural Experiment Station, Geneva, and by Prof. R. E. Buchanan, of Ames, Iowa. Their search failed also to reveal a single copy of the pamphlet in any American library.

In the summer of 1923 Doctor Breed took up the trail in Italy. On arriving at Milan, where the pamphlet was published, he learned of the existence of a copy in the library of the R. Istituto Lombardo di Scienze e Lettere, Milan, and through the courtesy of the library was given permission to examine the work. Upon attempting to purchase a copy through the book dealers of Milan, he learned that none of them would consider the order, as the firm that printed the pamphlet was out of existence and no arrangements could be made for having the library copy photographed. Efforts to obtain it through Paris book dealers were also unsuccessful.

Doctor Breed then made an appeal to the librarian of the Biblioteca Marciana, only to find, to his surprise, that this library had no copy of Trevisan's pamphlet but that one was to be found in the Biblioteca Nazionale Centrale of Florence. A Venetian photographer was then found, who made an excellent copy for Doctor Breed.

Knowing the efforts which the department library had been making to obtain the pamphlet, Doctor Breed very kindly lent it this copy, from which a photostatic copy was made and is now available in the library for reference. In the words of Doctor Breed, the pamphlet "is of particular interest to workers in systematic bacteriology, as it must have preceded the publication of the classification of Schizomycetes by De Toni and Trevisan in Saccardo's Sylloge Fungorum, 1889, by several months. This is indicated by certain references in Saccardo to the work by Trevisan. However, a comparison shows that some of these references are so incomplete as to be very misleading." Trevisan's pamphlet contains the original description of a number of generic terms which have recently been accepted as valid by many bacteriologists.

As an aid in acquainting herself with the farm homes of a county in which she has been working but a few months, Ila O. Swinney, home demonstration agent for Choctaw County, Okla., makes a brief record of conditions in each home with which she comes in contact, according to her 1924 report, so that after a few visits to a community she has a fairly representative survey of its homes. Such items as the location of the home, number in family, whether owner or tenant, and any other pertinent information she obtains, such as whether or not there are milk, poultry, and garden products for home use, what home conveniences are installed, children in school, and whether mother aids in the field work, are included.

Boys' and girls' 4-H club camp procedure is discussed in a mimeographed circular prepared by I. W. Hill, Office of Cooperative Extension Work, issued May 15. Points of importance in the selection of a camp site, preparations to be made for the camp, and methods which have been found successful in organizing and conducting it after the club members arrive, are presented. A typical camp schedule is included, together with a description of special features, such as the camp-fire period, visitors' day, and stunt night. Copies of the circular may be obtained from the Office of Cooperative Extension Work.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

Published every Wednesday at
WASHINGTON, D. C.

THE OFFICIAL RECORD is published as a means of communicating to workers and cooperators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Committee on Simplified Office Procedure
MEMORANDUM No. 539, June 4, 1925.—Mr. C. W. Kitchen business manager, Bureau of Agricultural Economics, is hereby designated to fill the vacancy on the Department Committee on Simplified Office Procedure caused by the resignation of Paul D. Kelleter, former director of purchases and sales. Mr. Kitchen will act as chairman of the committee and also as the representative of the Department of Agriculture on the interdepartmental board on simplified office procedure, as contemplated by Circular No. 137 of the Bureau of the Budget, dated May 16, 1924. The committee as at present constituted will consist of C. W. Kitchen, chairman; H. E. Allanson, assistant to the Chief of the Bureau of Plant Industry; and John P. Wenchel, assistant to the Solicitor. Department Memorandum No. 486 is amended accordingly.

Memorandum of Office of Personnel and Business Administration

P. B. A. CIRCULAR No. 10—June 3, 1925.—Saturday half-holidays in the District of Columbia begin with June 13 and continue to and include the second Saturday in September. On such days office hours in the District of Columbia will be from 9 a. m. to 1 p. m. without time off for luncheon.

Leave taken on such Saturdays will be in accordance with paragraph 494, Administrative Regulations.

Memorandum of the Bureau of the Budget

CIRCULAR No. 158—May 20, 1925.—Upon the request of the Navy Department, Commander F. G. Pyne (S. C.), United States Navy, is hereby relieved from further duty as coordinator for traffic and chairman of the Federal Traffic Board, effective 30 days subsequent to the arrival of the officer designated to replace him.

In accordance with the provision of Circular No. 41, Bureau of the Budget, dated October 10, 1921, and upon the recommendation of the Navy Department, Lieut. Commander C. E. Parsons (S. C.), United States

Navy, is hereby designated as coordinator for traffic and chairman of the Federal Traffic Board, effective July 1, 1925. Lieut. Commander Parsons will report to the chief coordinator on or about June 1, 1925.

By direction of the President:

H. M. LORD,

Director of the Bureau of the Budget.

Secretary Talks Before Chicago U. S. D. A. Club

"I feel that I am just beginning to realize what a very large family I have become a member of, and while I had heard and seen something of the department's work here in Chicago before my present visit, it far exceeds in many ways the picture I had in mind," said Secretary Jardine in an address before the Chicago U. S. D. A. Club at its regular monthly luncheon held in the Great Northern Hotel Friday, May 29. There were 101 present at the luncheon, a number of whom were out-of-town visitors, including F. M. Russell, assistant to the Secretary, and John Caine, in charge of the packers and stockyards administration.

Continuing, the Secretary said, "I am proud to be a member of this big family, because it is rendering a great service, a service that is not only very valuable to agriculture as a whole, but it is indispensable to the progress of American industry. It is true that the higher officials of the department are located in Washington, but it is in the field that the employees come in contact with those who are engaged in agriculture. It is in the field that the real problems of the producer and the dealer are met and solved. It is here that we witness the final results of the efforts of the department as a whole.

"I want to congratulate you upon the splendid service you are rendering. While it is not possible to become personally acquainted with all of the 1,400 employees here in Chicago, I desire to become acquainted with as many as possible, also to become acquainted with your work. Be assured that I will always stand squarely behind the employee who strives to perform faithfully his or her work, and if at any time there is inequality or injustice rendered to anyone it will be because all of the facts in the case have not been furnished me.

"The people fully appreciate what we are doing for them and they have every reason to expect that we will perform faithfully the duties incumbent upon us. Efficient and valuable as our work is, let us not be satisfied with past accomplishments, but strive continuously to make it even better."

STENCIL CUTTERS—MIX YOUR OWN!

The executive committee, interdepartmental board on simplified office procedure, recommended that the following extracts from a letter written by John C. Schofield, assistant and chief clerk of the War Department, relative to an economical compound for moistening stencils, be furnished all departments and establishments for their information:

"I suggest a trial of a compound that has been used in this department for the past seven or eight years for moistening stencils which has been entirely satisfactory and reduced the repairs to stencil-cutting machines to a minimum, practically no more than repairs to machines doing ordinary work. In the largest bureau of the department an operator whose entire time is employed in writing stencils has been using the same machine since February 26, 1924, without repairs of any character and it is at this time in good condition."

"The compound referred to consists of 8 ounces powdered soapstone, 5 ounces castile soap, and 4 ounces of glycerine. Add sufficient water to make a gallon; shake before using. One gallon of this substance will cost approximately 23 cents, whereas an 8-ounce bottle of a commercial substance generally used for cutting stencils and contracted for by the General Supply Committee is quoted at 20 cents.

"There has not been a single complaint from any branch or service of the department concerning the use of the compound referred to above."

The instructions "seemed like Greek" to most of the farmers, County Agent R. W. Graeber, of Iredell County, N. C., found when giving demonstrations in using a level for farm terracing. Last year he tried providing two or three levels for each demonstration and instead of running the levels himself had the men who were present rotate in using the instruments, while the agent went from one level to another checking up to see that the work was being done accurately. In a demonstration at which six men were present, each learned to use the level, surveyed one terrace, moved the level one or more times and located another terrace. This method usually resulted in the purchase of a level by the community or one of the farmers. Iredell County farmers terraced 534 acres last year.

A CORRECTION

The American Association of Agricultural College Editors meets at Raleigh, N. C., July 7-10. Through an error the word "Editors" was omitted from the announcement of this meeting in The Official Record for June 10.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

Standardized methods of grading and the development of a common language for use in trading are two of the lines of work to which the Bureau of Agricultural Economics is devoting much attention in an effort to smooth out the many kinks in the knotty problem of marketing. The market news services now offered in many forms, including mail, telegraphic, and radio, have emphasized constantly the need for standards and the necessity of reporting the markets in terms known and recognized as the same by farmers, shippers, carriers, dealers, and consumers.

It was in 1914 that the first official cotton standards of the United States were promulgated under the provisions of the United States cotton futures act. During the last year a great forward step was the adoption of universal standards for American cotton by all of the large associations and exchanges of Europe, thus assuring the use of the standards in international trade. In this country these standards are the basis of future contracts on exchanges and are compulsory in interstate and foreign commerce. They are also used as a basis for quotation in all of the spot markets of the country.

United States standards for diameter of fiber for wool have been promulgated after they were indorsed by the research and standardization committee of the wool and textile industry and by wool producers and the wool trade. They are compulsory for wool stored in warehouses operating under Government license, but otherwise are optional.

Grades for shelled corn, wheat, oats, rye, and grain sorghums are compulsory in interstate and foreign commerce if the grain is sold by grade. Grades for feed oats and mixed feed oats have just been established and will become mandatory under the grain standards act on September 1, 1925. Standards for milled and rough rice have been prepared, but their use is optional until such time as funds are available for their enforcement.

Potato grades were among the first worked out for perishable products, and their use was stimulated during the war when the Food Administration ruled that only potatoes complying with those standards could be shipped. These were compulsory for only about one year, but

since that time their voluntary use has been so extended that now 80 per cent of the commercial potato crop is shipped under United States grades. Standards for about 30 other perishables have been worked out and recommended officially for optional use.

Standards known as "tentative" have been offered for use under commercial conditions to test their practicability. Such tentative standards which may later become either permissive or mandatory according to circumstances cover: Cotton linters, eggs, hay (alfalfa, alfalfa mixed, wild, Johnson), dry edible beans, soybeans, meats, and livestock.

Tobacco warehousemen licensed under the United States warehouse act are required to use tobacco grades devised for the purpose, and licensed sirup warehousemen are required to use standards promulgated by the Bureau of Chemistry for maple and cane sirup.

It has been recognized that the standardization of the containers for fruits and vegetables is intimately connected with standardization of the products themselves. In 1915 the standard barrel law was passed by Congress, and in one year the motley array of deceptive and nonstandard fruit and vegetable barrels was replaced with a single series which met all the needs of the trade. Under the United States standard container act climax baskets, berry boxes, and till baskets have been standardized and are now mandatory in interstate commerce. Standards for other containers are being worked out.

The standardization of trade language in the fruit and vegetable industry is now receiving much thought by bureau officials. As a result of several conferences with outstanding members of the trade, a fairly definite plan of cooperation between the trade and the bureau has been outlined. The proposals thus far advanced have been approved in principle by three of the national trade bodies and it is understood will be considered by the others at their next conventions.

The bibliographical report to the 1924 Land-Grant College Association meeting, which appears on pages 110-140 of the printed proceedings of that session recently issued, makes readily available a large amount of material of interest to students of the progress of agricultural education and research in this country. It gives a partial index to all previously published proceedings, 1885-1923, with special reference to agricultural education and research, and covers material relating to most of the problems which have arisen in these lines of work during the past 40 years. The index was prepared by Martha L. Gericke and C. L. Feldkamp, office of experiment stations library, under the direction of A. C. True, specialist in States relations.

Bureau of Home Economics Studies Clothing Problems of Consumer

The Bureau of Home Economics, in cooperation with the American Home Economics Association, is undertaking the study of present habits and problems of the consumer in planning, buying, making, and care of clothing. The bureau desires to make its clothing research practical and fundamental, and in order to do this needs certain facts direct from women about their own clothing problems. From the answers to the questionnaire used in this study the bureau will have first-hand information on such points as the relation of the family income to the annual expenditure for clothing, the number and kinds of garments made at home or bought ready to wear, equipment used in home sewing, how certain clothing habits vary in different communities, and the use made by women of school and college courses in clothing. These facts will also be of great value to teachers, extension workers, and leaders of clubs in formulating programs dealing with various phases of clothing.

At present over 3,000 copies of the questionnaire are being circulated through the cooperation of the Federal and State extension service, home economics departments in over 100 colleges and universities, and the General Federation of Women's Clubs. Intensive studies are under way in such widely divergent communities as a packing-house district of Omaha, Nebr., a mill town in Georgia, and an Illinois farming community. The bureau desires, however, to have records from all homemakers and professional women who care to report their experience and will send questionnaires in response to any requests addressed to the Bureau of Home Economics, United States Department of Agriculture, Washington, D. C. If this study proves successful, it is hoped to repeat it every 5 or 10 years, so that trends in the consumers' clothing habits can be noted and the research of the bureau adapted to meet new conditions.

A concern prominently engaged in the transportation of almonds from Spain called at the department to discuss the subject of insects attacking nut meats. Considerable difficulty has been experienced in shipping shelled almonds to different parts of the world. By issuing a circular of information, approved by the Bureau of Entomology, and by following directions for fumigating their products, members of the company report that their insect problem has been greatly simplified.

WITH EXTENSION FORCES

CALIFORNIA TRAVELING CONFERENCE

A unique type of conference for extension workers, a traveling conference, has been developed in California, and an effective session was held May 4-9. County agents from 42 counties, each accompanied by from two to five farmers of his county, traveled by automobile from the agricultural college at Berkeley to Red Bluff, a distance of approximately 700 miles, making scheduled stops to see demonstrations in the counties visited. Ten counties were traversed and 58 demonstrations studied. Including State supervisors and agricultural specialists, about 200 people and 48 automobiles made up the caravan.

Annual traveling conferences were held in California from 1917 to 1922, and that method of study was used again this year to observe new activities inaugurated since the previous tours. This type of conference has been found valuable in acquainting county extension agents with work in other counties and in bringing a considerable group of farmers into intimate and sympathetic relations with the larger and State-wide aspects of extension work.

The route covered by the tour had been traveled in advance and the travel time and the time at demonstration stops reduced to an exact schedule. So carefully had the trip been planned that the cavalcade was never over one minute off schedule from start to finish. Cars were numbered and kept their places in the procession throughout the trip. A car with repairs for ordinary road trouble was last in line. Two motor cycle rural police accompanied the party, giving right of way over the highways and guarding against traffic accident.

Study of the effect of project leaders' work was the main purpose of this year's trip. The demonstrations comprised work relating to soils and fertilizers, including orchard fertilization, cover crops, subsoiling and blasting, rice fertilization, and contour check irrigation; field crop work, including barley varieties and grain varieties; horticultural demonstrations, embracing inarching, fruit thinning, vine trellising, wire bracing, olive pruning, orchard pruning, orchard management, root stocks, grape growers' contest, orchard pollination, vine pruning, double working of apricots on almonds, and vine sulphuring; animal husbandry work in sheep mating, pure-bred sheep, and wool grading; dairy husbandry demonstrations in use of pure-bred sires, silos, and dairy buildings;

poultry husbandry activities, including culling, housing, management, and feeding; community activities, including rural fire protection, community cold storage, community hall, school-grounds improvement; handling grain in bulk at elevator; home demonstration activities, embracing hot school lunch, child feeding, home furnishing, project leaders' meeting on nutrition, demonstration lunch, clothing, home evaporators, first aid and home care of sick, health shoe demonstration, mother and infant project, home gardens, and home grounds improvement; club demonstration teams included berry trellising, landscape gardening, market milk scoring, pullet selection, poultry culling, and bee club work. Poultry clubs, calf clubs, home garden clubs, pig clubs, and clothing clubs were seen.

Stops at the demonstrations varied from 10 minutes to a half hour. Night meetings were held at Stockton, Sacramento, Marysville, Chico, and Red Bluff.

Arrangements had been made by the Federal Department of Agriculture to make a motion picture of the entire tour, which will be available later for distribution. W. A. Lloyd, regional agent, western division, office of cooperative extension work, and F. W. Perkins, chief officer of motion pictures, with Eugene Tucker, photographer, accompanied the conference.

FOUR DEGREES IN TWO YEARS

Two women members of the library staff of the Weather Bureau have between them taken four degrees within a space of two years and are continuing work for other degrees. Miss Amy D. Putnam received her B. A. from George Washington University in 1922 and her M. A. in 1923. She has also completed a year's work toward her Ph. D. Miss Alice J. Whitcomb was awarded the degree of B. L. I. from the Emerson College of Oratory in 1923 and an L. L. B. from the Washington College of Law in 1924. Except that the final work for her first degree was done by Miss Whitcomb during a summer-school course, all of the necessary class attendance and study connected with obtaining these degrees was carried on after office hours, as the young women were engaged in regular work in the Weather Bureau.

Dr. Herbert Freundlich, professor at Kaiser Wilhelm Institute, Berlin, and world-famed authority on colloids, who is in this country to deliver a course of lectures on colloid chemistry at the summer school of the University of Minnesota, recently visited the department. He spent considerable time in the Bureau of Soils studying the results of the bureau's investigation of colloids of the soil.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is there a national organization of the 4-H clubs for farm boys and girls? If not, is there any federation of these clubs or are they independent organizations?

Answer. There is no national organization of the 4-H clubs for farm boys and girls. In a number of States there are "so-called" State organizations with officers elected by the club members attending the annual short course held at the agricultural college. Also there are a limited number of States which have State organizations made up of representatives from the several counties within the State.

Question. How does the seed importation act protect the American farmer?

Answer. The seed importation act prohibits the importation into the United States of the seeds of the commonly cultivated grasses, clovers, and alfalfa when such seeds are unfit for seeding purposes within the meaning of the act.

Question. How is the vitamin content of foods studied?

Answer. At the present time no method of isolating any one of the vitamins has been worked out in such a way that it is possible to determine by chemical analysis the amount in any given food. Feeding experiments are therefore conducted on small laboratory animals. By noting the effect of a certain food on growth and onset of disease an idea can be gained of the vitamin potency of that food. The growth of the rat, for example, is dependent on the presence of vitamin A in its diet, and its normal behavior has been so exhaustively studied that any degree of deviation in the rate of growth may be noted when the animal is kept on a diet adequate in all constituents but containing too little vitamin A. In order to determine the vitamin potency of a given food a group of rats of known age and history are placed upon a diet devoid of vitamin A and adequate in all other respects. Weighed supplements of the food to be tested are fed, usually daily, over a period of weeks. The gain in weight which the animals make is used as the criterion for judging the vitamin potency. The same general method is used in testing for vitamin B. For vitamin C guinea pigs are generally used, since rats are not sensitive to a lack of this vitamin. The antirachitic factor may be studied from the amount of any food necessary to afford good calcification on a rickets-producing diet.

BRIEF REVIEWS OF NEW BULLETINS

Work and Expenditures of the Agricultural Experiment Stations, 1923. By E. W. Allen, W. H. Beal, and E. R. Flint. Pp. 122. June, 1925. Price, 10 cents.

This is the annual report on work and expenditures of the State agricultural experiment stations required by law. It deals with Federal and State relationships; questions of administration and policy; programs of work; legislation affecting the stations; additions to buildings and equipment; personnel; income and expenditures; publications; and progress, trends, and outstanding features of the work of the stations. There are included reviews, with bibliographies, of station work on special subjects as follows: Station Work on Infectious Abortion, by W. A. Hooker; History of Station Work in Agricultural Economics, by Louise Marbut; and Station Work on Ventilation of Animal Shelters, by R. W. Trullinger. Brief report is also made on the experiment stations maintained by the department under the direction of the office of experiment stations in Alaska, Guam, Hawaii, Porto Rico, and the Virgin Islands.

Emulsions of Wormseed Oil and of Carbon Disulfide for Destroying Larvæ of the Japanese Beetle in the Roots of Perennial Plants. By B. R. Leach, associate entomologist, and J. P. Johnson, junior entomologist, fruit insect investigations, Bureau of Entomology. Pp. 18, figs. 2. May, 1925. (Department Bulletin 1332.) Price, 5 cents.

Plants of the nature of Japanese iris, phlox, sedum, etc., have a matted root system, while peonies are hollow-rotted. It is impossible to eliminate larvæ of the Japanese beetle which may be present in these roots by such means as removal of the dirt, by washing, or by other ordinary methods. The experimental work outlined in this bulletin was therefore conducted for the purpose of evolving a chemical dip in which such plants could be immersed for definite periods of time to make sure of killing any larvæ present and with no resulting injury to the plant.

Parasites and Parasitic Diseases of Dogs. By Maurice C. Hall, zoologist, zoological division, Bureau of Animal Industry. Pp. 28, figs. 32. May, 1925. (Department Circular 338.) Price, 10 cents.

This publication tells dog fanciers in concise form what the department knows of the parasites and parasitic diseases of dogs. Of the large number of worm parasites, such as hookworms and roundworms, and of external parasites, such as fleas, lice, and ticks, reported from dogs, only a few of the more important ones are discussed. The importance of these parasites, says the department, is heightened by the fact that a number of them are transmissible in some form to man and to livestock. Control is therefore necessary not only for the sake of the dog but for human health and the welfare of the livestock industry. Prevention is the business of the dog owner. It is largely a matter of sanitation and careful supervision of the dog's habits, especially his food.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 52, No. 4. March, 1925. Pp. 310-400. Price, 10 cents.

—Vol. 52, No. 5. April, 1925. Pp. 401-500. Price, 5 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to

agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 216. April, 1925. Pp. 39-42. May, 1925. Price, 5 cents.

Bureau of Chemistry. Supplement 193. Notices of Judgment 13101-13150. Pp. 55-77. May, 1925. Price, 5 cents.

Insecticide and Fungicide Board. No. 51. Notices of Judgment 976-1000. Pp. 1169-1191. May, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the two weeks of May 25-June 6, 1925. Copies of these publications may be obtained from the stations issuing them.

Report of the Guam Agricultural Experiment Station, 1923. C. W. Edwards et al. Pp. 12, figs. 8.

Annual report for fiscal year ending June 30, 1924, Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts. C. F. Curtiss. Pp. 64.

Ground sorgo seed as a feed for dairy cows. H. W. Gave and J. B. Fitch. (Kansas Sta. Circ. 110, pp. 8. Apr., 1925.)

Swine feeding investigations, 1922-23. B. M. Anderson and H. W. Marston. (Kansas Sta. Circ. 112, pp. 8, figs. 4. Apr., 1925.)

A study of the physiologic and pathologic changes occurring in the reproductive organs of the cow following parturition. W. L. Boyd. (Minnesota Sta. Tech. Bul. 23, pp. 39, pls. 8. Mar., 1925.)

(Minnesota) Agricultural Experiment Station, Thirty-second annual report, Part II. Popular discussions of some of the experimental work in animal husbandry, dairy husbandry, veterinary medicine, poultry husbandry, and bee culture, 1924. Pp. 40, figs. 10.

The Metropolis Reclamation Project.—A survey of farm, home, and social conditions upon a project still in an early state of development. J. C. Lambert. (Nevada Sta. Bul. 107, pp. 30, figs. 6. Nov., 1924.)

The pruning of shrubs. M. A. Blake. (New Jersey Sta. Circ. 176, pp. 8, figs. 4. Apr., 1925.)

Preliminary report on range cow supplemental feeding. J. L. Lantow and M. G. Snell. (New Mexico Sta. Bul. 144, pp. 8. June, 1924.)

Fruit culture in North Dakota. A. F. Yeager. (North Dakota Sta. Bul. 188, pp. 23, figs. 25. Feb., 1925.)

Dickinson Substation report for 1922 and 1923. L. Moomaw. (North Dakota Sta. Bul. 189, pp. 46, figs. 8. Feb., 1925.)

Treatment of black alkali with gypsum. C. N. Catlin and A. E. Finson. (Arizona Sta. Bul. 102, pp. 291-337, pl. 1, figs. 21. Mar., 1925.)

Dry-farming in the Sulphur Spring Valley. G. E. Thompson and F. E. Gray. (Arizona Sta. Bul. 103, pp. 339-357, figs. 9. Apr., 1925.)

Green manure and soil-building crops for Arizona. G. E. Thompson, R. S. Harkins, and S. P. Clark. (Arizona Sta. Bul. 104, pp. 359-379, pl. 1, figs. 7. Apr., 1925.)

Physical and chemical factors in the growth of asparagus. E. B. Working. (Arizona Sta. Tech. Bul. 5, pp. 85-124, figs. 14. Apr., 1925.)

Legume forages with corn and cane for silage. H. E. Dvorachek, F. H. Herzer, R. H. Mason, H. E. Reed, and E. Martin. (Arkansas Sta. Bul. 196, p. 14. Apr., 1925.)

Corn root, stalk, and ear rot diseases, and their control through seed selection and breeding. J. R. Holbert, W. L. Burlison, B. Koehler, C. M. Woodworth, and G. H. Dungan. (Illinois Sta. Bul. 255, p. 99, pls. 9, figs. 40. May, 1925.)

Strawberries and farm profits in western Kentucky. J. B. Hutson. (Kentucky Sta. Bul. 255, pp. 131-171, figs. 11. Dec., 1924.)

The thirty-seventh annual report of the University of Maryland Agricultural Experiment Station, 1923-1924. pp. XIX+300, figs. 78.

Winter pruning the black raspberry. S. Johnston. (Michigan Sta. Spec. Bul. 143, p. 22, figs. 6. Mar., 1925.)

Christmas tree plantations. A. K. Chittenden. (Michigan Sta. Spec. Bul. 145, p. 9, figs. 3. Mar., 1925.)

The Quarterly Bulletin. (Michigan Sta. Quart. Bul. vol. 7, No. 4, pp. 121-168, figs. 12. May, 1925.)

The production of volatile fatty acids in the intestinal tract of calves fed whole milk or cereal gruel. L. C. Norris. (New York Cornell Sta. Mem. 90, p. 32, fig. 1. Apr., 1925.)

Poison spray for grape rootworm. F. Z. Hartzell. (New York State Sta. Bul. 519, pop. ed. p. 3, pls. 2, fig. 1. Feb., 1925.)

A taxonomic review of currants and gooseberries. A. Berger. (New York State Sta. Tech. Bul. 109, p. 118, pls. 8. Dec., 1924.)

A gaseous fermentation of tomato pulp and related products. F. L. Mickle and R. S. Breed. (New York State Sta. Tech. Bul. 110, p. 27. Jan., 1925.)

The texture of ice cream. A. C. Dahlberg. (New York State Sta. Tech. Bul. 111, pp. 42, pls. 4. Apr., 1925.)

Catch County Water Conservation District No. 1. W. Peterson, G. D. Clyde, D. S. Jennings, M. D. Thomas, and K. Harris. (Utah Sta. Bul. 193, pp. 47, figs. 12. Apr., 1925.)

CIVIL SERVICE ANNOUNCEMENT

Livestock assistant, \$3,300-\$3,900. A vacancy in the Packers and Stockyards Administration, for duty at Kansas City, Mo., and vacancies occurring in positions requiring similar qualifications will be filled from this examination. Appointment at Kansas City will be at entrance salary of \$3,600 a year. Appointment at Washington, D. C., will be at entrance of \$3,300 a year, and advancement in pay may be made without change in assignment up to \$3,900 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications closes July 14, 1925.

DENVER U. S. D. A. CLUB

The Denver U. S. D. A. Club held its monthly luncheon at the Chamber of Commerce on Tuesday, May 12. David Thomas, director of the agricultural department of the Denver Chamber of Commerce, was the club's guest and speaker. Mr. Thomas stated that the work of his department is to bring industry and regulatory work into closer contact. There is now a misunderstanding of viewpoint; a clash between the self-made man and the cultured man; "a terrific waste," as Secretary Hoover says.

There are only four or five jobs similar to that of Mr. Thomas in the United States, and as there is no set program or outline of work to be accomplished it has been made the aim of the department to foster this closer contact between the various interests for the betterment of agriculture throughout the State. The farmers' viewpoint is brought to the business men, and vice versa.

Don Fernando Silvela, agricultural attaché of the Spanish Embassy, recently visited the department.

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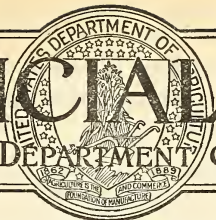
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A CORRECTION

Under Brief Reviews of New Bulletins in THE OFFICIAL RECORD for June 3 the bulletin entitled "Control of Decay in Pulp and Pulp Wood" should have been numbered Department Bulletin 1298.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JUNE 24, 1925

No. 25

ROAD OVER SALT BEDS A GREAT ACHIEVEMENT

Secretary at Opening Says Wendover Cut-off Is Result of Splendid Cooperation

"The completion of the Wendover Cut-off is the occasion for much satisfaction," said Secretary Jardine at the official opening of the highway at Salduro, Utah, on June 13. "Not only is this project a remarkable and unique engineering achievement, but it is also an outstanding example of the value of cooperative endeavor in public service."

The Wendover Cut-off is a highway which has just been completed across the mud flats and salt beds of the Great Salt Lake Desert between Salt Lake City and the Nevada line. The completion of the road opens the way for transcontinental and interstate travel between Salt Lake City and northern and central California, and brings to a successful conclusion a five-year effort to bridge the age-old obstacle of the salt desert.

Unique Difficulties Met

The construction of the road, which involved many unique features and was carried out in the face of serious engineering difficulties, was made possible only by the close cooperation of the State of Utah, the Federal Government, and civic, highway, and automobile associations of Utah, Nevada, and California. The road is a Federal-aid highway, and the cost was borne jointly by the State of Utah and the Federal Government supplemented by contributions from groups of interested citizens.

Secretary Jardine and Thomas H. MacDonald, chief of the Bureau of Public Roads, represented the Federal Government at the official opening; and the States of Utah, Nevada, and California were represented by their governors and by members of the State highway commissions. Delegations from commercial and civic organizations

which assisted in the financing of the project were also in attendance.

Federal Aid Invaluable

Congratulating the State of Utah and praising the engineers and other workers who had labored hard for 18 months, Secretary Jardine went on to say that had the resources of Utah alone been available the project would have been impossible. "Of the \$380,000 required for its completion, the United States Government has furnished as Federal aid approximately \$284,000. This very substantial contribution has been possible because the road is a part of the Federal aid highway system, in which, in the United States as a whole, there are about 175,000 miles, and in Utah 1,588 miles. And so there has been from the beginning not only the most splendid cooperation between the State highway department and the public and between the engineers and the contractor, but also the cooperation of the Federal Government. Sitting with the State engineers, engineers of the Federal Government have studied this design, approved each step as developed, inspected this work as it went forward, and in every possible way encouraged its completion. * * *

Of Great Future Significance

"It is impossible adequately to predict the ultimate significance or the effects of the completion of the Wendover Cut-off. We know that for the first time it provides a direct route west to San Francisco. We know that San Francisco has been one of the important objectives of the Pacific coast for westward travelers for half a century and that it is now the objective of increasing numbers of eastern tourists who are going to the Pacific coast. These tourists know that the Pacific coast highways are paved and, accordingly, that to reach San Francisco is to reach any portion of the coast by a paved highway. * * *

"And so, while we are to be congratulated on the completion of the Wendover Cut-off as a link in the great highway

(Continued on page 6)

C. J. BRAND TO JOIN FERTILIZER FEDERATION

Came to Department Seed Laboratory in 1903. Was First Chief of Markets

Charles J. Brand, consulting specialist in marketing of the department, who has been giving special attention to economic problems incident to the operation of the packers and stockyards and grain futures administrations, has been selected by the New National Fertilizer Association as executive secretary and treasurer.

Mr. Brand was born on a farm in Minnesota and received his early education in that State. While preparing for college he taught in the graded and country schools of South Dakota and Minnesota. In 1898 Mr. Brand entered the University of Minnesota, from which he was graduated four years later, having held a university scholarship in botany in 1901-2. Following his graduation, he was for a short time assistant curator of economic botany, Field Museum of Natural History, Chicago.

First Employed in Plant Industry

Mr. Brand first came to the department in 1903, appointed as a scientific assistant in the seed laboratory. A few years later, when in charge of clover and alfalfa investigations, he introduced some valuable strains from foreign countries. Soon after, in charge of paper-plant investigations, Mr. Brand became interested in testing the economic possibilities of utilizing certain waste raw materials. He also assisted in organizing the first cooperative cotton enterprises and in establishing the Arizona-California long-staple cotton industry.

Mr. Brand headed the Bureau of Markets from 1913 to 1919, when he resigned, and during this time it grew to be an important bureau of the department. He assisted in and supervised the drafting of the United States cotton futures, grain

standards, warehouse, standard container, food products inspection, and other acts, and subsequently administered those laws. As a member of the war emergency agricultural conference at St. Louis, April, 1917, he assisted in preparing the foundation draft of what later became the food control act.

During the war Mr. Brand was chairman of the committee on cotton distribution, a member of the wool advisory committee, liquidating officer by appointment of the President to collect and distribute excess profits under the regulations, and representative of the Secretary of Agriculture on the first price-fixing committee of the Council of National Defense.

With Marketing Organization Three Years

In 1919 Mr. Brand resigned from the department and for three years was vice president and general manager of the American Fruit Growers (Inc.), with headquarters at Pittsburgh. At the invitation of Secretary Wallace he returned to the department in 1922, where he has been serving as consulting specialist in marketing to the Secretary of Agriculture and has worked on economic problems in connection with the packers and stockyards and grain futures administrations. This is his present connection.

Mr. Brand is a member of the American Economic Association, the Washington Academy of Science, the honorary scientific research fraternity, Sigma Xi, the Cosmos and Chevy Chase Clubs, and numerous other organizations. For several years he was a member of the executive committee of the bureau of personnel research, Carnegie Institute of Technology, Pittsburgh.

The New National Fertilizer Association is a combination of the two previously existing associations, one occupying the southern and one the northern and western fields. The executive headquarters of the association will be at Washington, D. C., and branch offices will be maintained at Chicago, Atlanta, and Shreveport. Under the direction of the president of the executive committee Mr. Brand will supervise such activities of the association as soil improvement work, cost accounting, traffic activities, improved trade practices, standardization, and public relations. He will enter upon his new duties as soon after July 1 as he can complete his present work.

Dr. Alexander Kotlan, D. V. M., professor of parasitology, College of Veterinary Science, Budapest, was a recent visitor at the department.

The First Week in June Was the Hottest on Record

Everybody in the eastern part of the United States realizes that the first week in June was the hottest in their recent recollections. It may prove comforting to know exactly how hot it was in comparison with other years and to be told that for many of the places where the hot spell was felt it was the hottest week for June 1-7 on record.

The hot area stretched more than half way across the United States, ending quite sharply along a line that passed about midway through the Dakotas, Nebraska, Colorado, New Mexico, and through the western end of Texas. On the other side of this line the weather was cold, freezing temperatures being recorded at many points; east of it the temperature exceeded normal from 3° F. to 16° F.

In Washington, D. C., for example, the highest official temperatures for the week of June 1-7 were, respectively, 94°, 97°, 99°, 99°, 100°, 97°, 94°. The average maximum temperature was 97.1° and the mean temperature was 83.4°, which is 14° above the normal mean for that week. Normal temperatures for this week in Washington, D. C., are 68°, 69°, 69°, 69°, 70°, 70°, 70°, or 69.3° mean for the week. Washington people still remember how hot it was during "Shriners' Week," which was the corresponding week in June, 1923, but on looking up the records one finds that the 1923 temperatures averaged only 9° above normal. A glance over the table for 20 years back shows also that the coldest first week in June, which occurred in 1907, had temperatures averaging 10° below normal, making a range from warmest to coldest of 24°.

Similar conditions prevailed in many other cities. In the region near the Great Lakes, where the departure from normal was about 15°, the change resulted in unusual discomfort because of the cool weather that usually prevails there.

Boston had an average departure of 16.7° above normal for the week, although the average temperature was only 80°. The average maximum was 91°, and the high point was touched on June 6, when the mercury climbed to 100°. The average departure above normal in Chicago was 15.5°, with 96° the highest temperature of the week. The temperature in St. Louis also registered 96° on the 6th, but the average departure was 9.6° above normal for the week. Kansas City showed an average departure of 7.2°, and Duluth 10.1°. One of the cities experiencing nearly normal

conditions was New Orleans, for the temperature stayed at 88° for five days, with an average maximum of 87.4° and a departure above average normal temperature of only six-tenths of a degree.

The Weather Bureau of the department has issued in the form of Supplement 25 to the Monthly Weather Review a table showing the normal mean temperature for every day in the year for 164 places in the United States. This table was compiled from the temperature records of more than 50 years. The Weather Bureau has also published in its weekly weather and crop bulletin a map showing the departure of mean temperature from normal during the first week in June over the entire United States.

TO COLLECT WORLD WOOL STATISTICS

A program for obtaining current world wool statistics has been outlined in a communication which the department has sent to Asher Hobson, American representative at the International Institute of Agriculture at Rome, with the request that Mr. Hobson take up the matter with that body. Both the Department of Commerce and the Department of Agriculture are cooperating in this move for better wool statistics.

The program provides for the collection of figures on the production of wool and sheep in all important countries, especially in those countries which have an exportable surplus and in those European countries which produce a considerable proportion of their own needs. Information as to production of wool would include not only total weight, but in so far as possible, also the amount produced, classified as to staple or grade, and the percentage that the wool will scour.

Figures on exports and imports of wool would be by class or grade reduced to a scoured basis or reported in terms of washed, scoured, and in the grease, getting at the same time the factors for reducing all to the scoured basis. Stocks of wool, monthly, quarterly, or annually, at the end of the season would be shown for all important producing and consuming countries. These stocks would also be reported as to class and condition.

Reports of monthly consumption of wool would be obtained at least from the more important consuming countries, and an effort made to obtain quarterly or annual consumption from all consuming countries.

The Graduate School Committee of the department would be very glad to have any suggestions from prospective students regarding what they desire in the way of courses for the 1925-26 school year. Those who have any suggestions to offer are requested to send them to the Director of Scientific Work.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

PEDIGREES FOR CITRUS VARIETIES

In connection with the rapid expansion of orange and grapefruit growing in Florida and Satsuma orange growing in the other Gulf States, the need has become apparent for growing better fruit rather than additional supplies of ordinary and often mediocre fruit. Normal increase in production should be brought about by securing greater yields per acre rather than by the haphazard planting of new acreage, particularly of untested varieties or unselected strains of old varieties. To meet this need bud selection of standard varieties offers one means of standardizing and stabilizing the citrus industry.

Some years ago the Bureau of Plant Industry investigators working in this field developed a system of individual tree performance records to discover grove trees producing uniformly large crops of fine quality, as well as to locate and eliminate nonproductive or "drone" trees. The pioneer work along this line was carried out in California and the results were so striking that for several years past the new plantings in that State have been made exclusively from "pedigreed" nursery stock, each new tree having a known parent tree in good production.

Similar work is now being extended to Florida in cooperation with the Florida State Experiment Station and to Alabama in cooperation with some of the leading nurserymen and growers. At the Lake Alfred Citrus Experiment Station in Florida is being developed a "progeny grove," each row or block of which is propagated from a single selected parent tree of one of the standard citrus varieties. The selected parent trees have been under observation for a term of years, with yield and fruit characteristics carefully recorded, and several such selected parent trees of each variety are represented by separate "progenies" in the progeny grove. Thus, after these "progenies" have been tested side by side under uniform treatment for yield, vigor of growth, fruit quality, and adherence to type, a final selection of the best strain of that variety will be made to serve as a basis for future propagation. A "proven progeny" will then mean that all the trees budded from a single parent tree not only produce abundantly, but that the fruit is true to type and free from the

tendency to "sporting" or the production of offtypes so frequently encountered in trees of unknown parentage. To perpetuate desired uniformity of fruit type it is recognized as important that the bud wood used for propagation shall be taken only from fruiting twigs, avoiding sprout wood and vegetative branches so often resorted to in common nursery practice to furnish propagating material. The final disposition of bud wood produced under this progeny-grove plan will be handled as a public-service project under the control of the State experiment station with the view to furnishing growers and nurserymen with dependable propagating material and eliminate the large waste of time and money that has gone into planting and caring for trees that are predestined to be unprofitable.

The citrus growers of Florida, through the agency of the State horticultural society, have adopted a list of approved varieties and laid down certain requirements which a new variety must measure up to before it can receive consideration for inclusion in this list. Only such approved varieties are being "pedigreed" in the present progeny project, and it is unlikely that any new varieties will be included unless their merits are proven so preeminent as to definitely supplant one of the older approved varieties. Too many varieties has been one of the chief handicaps to the successful marketing of the Florida citrus crop in years past.

The tremendous scope of rodent-control work can be seen from a report to the Biological Survey of what was accomplished in Arizona in a single month. Rodent-control campaigns in this State in April were directed against prairie dogs, pocket gophers, and rabbits. About 12,000 rodents a day were killed, or 360,000, approximately, for the month. Nearly 80,000 acres of infested lands were treated with about 8,000 quarts of poisoned bait by 379 cooperating farmers and stockmen. No matter how conservative the estimate of the value per acre of ridding lands of rodent pests, it must be evident that the results are worth thousands of dollars to the landowners.

Reports on the condition of berries and melons and home gardens will no longer be included in the monthly crop report issued by the Bureau of Agricultural Economics. These items have appeared on the schedule of inquiry for several years, but because of the demand for information on crops of greater commercial importance, which has resulted in greatly enlarging the scope of the monthly inquiries, questions on these three minor crops will be discontinued.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From Material Issued by the Department During the Past Week

FARM WAGES ARE ON THE UPTREND

Farm wages have increased over 200 per cent during the past 60 years, department statisticians have found in a compilation of wage figures running back to the Civil War. Time was when a farm hand could be hired for \$10 a month with board. Nowadays the same labor costs \$34 a month. The peak was reached in 1920 when wages were \$47 a month with board.

STUDY LIVING OF FARM FAMILIES

Living expenditures among colored farm families in selected localities of Kentucky, Tennessee, and Texas appear to be less than half those of white farm families in the same districts. This is indicated by a study just completed by the department, in which the living costs of 154 colored farm families and 861 white farm families in these three States were compared. The data obtained were for the year 1920 and are therefore not an index of present living costs, but they are valuable nevertheless as indicating the standards of living of these farm families. The average total expenditure of the colored families for the year was only \$611 compared with a similar average of \$1,436 for the white families.

WATCH FOR DYING PINES THIS SUMMER

Timberland owners in the South are urged by the department to keep a close watch this summer on their pine lands to note any clumps of pines dying from the attacks of the southern pine beetle. Recent studies made by the Bureau of Entomology indicate outbreaks of this insect occur during periods of abnormally low rainfall. The Weather Bureau reports that the rainfall for the first five months of 1925 has been much below normal in the southeastern sections of the United States, the deficiency in rainfall at some stations being as much as 15 inches.

POOR PASTURES AFFECT DAIRYING

Production of milk, butter, and cheese in the North Central States may be somewhat reduced this year because of poor condition of pastures, according to reports received by the department. These States produce the bulk of the creamery butter and cheese for the country as a whole. Unfavorable weather during May has impaired pastures in this region so that their average condition is only 71 as compared with a usual average above 90 at this season. This is expected to affect the milk flow and therefore the production of butter and cheese.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Amendment to the Administrative Regulations

MEMORANDUM NO. 540.—Paragraph 489 of the Administrative Regulations of the department is hereby amended, effective July 1, 1925, by addition of the following subparagraph:

All officers and employees of the United States or of the District of Columbia, who are members of the Naval Reserve, shall be entitled to leave of absence from their respective duties, without loss of pay, time, or efficiency rating, on all days during which they are employed, under orders, on training duty for periods not to exceed 15 days in any one calendar year.

The amendment incorporates the provision of the act of February 28, 1925 (Public, No. 512, 68th Cong.).

CIVIL-SERVICE ANNOUNCEMENTS

Associate home economics specialist (textiles and clothing), \$3,000; assistant home economics specialist (textiles and clothing), \$2,400. Vacancies in the division of textiles and clothing, Bureau of Home Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$3,600 a year for associate home economics specialist and up to \$3,000 a year for assistant home economics specialist. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 21.

War material supervisor, \$3,000-\$3,600. Vacancies in the Bureau of Public Roads for duty in the field and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 21.

Associate agricultural statistician, \$3,000. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., or in the field and in positions requiring similar qualifications will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examina-

tion desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 21.

Assistant agricultural economist (transportation), \$2,400. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 21.

Assistant entomologist (parasitology), \$2,400. A vacancy in the Bureau of Entomology for duty at Arlington, Mass., and vacancies occurring in positions requiring similar qualifications throughout the United States, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 28.

Junior agricultural statistician, \$1,860. Vacancies in the Bureau of Agricultural Economics, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close July 25.

Assistant scientific aid (linter grading), \$1,500. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$1,860 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close July 25.

DR. L. A. ROGERS HONORED

Dr. L. A. Rogers, of the research laboratories in the Bureau of Dairying, received the honorary degree of Doctor of Science from his Alma Mater, the University of Maine, on June 3. This is the second institution to honor Doctor Rogers. In 1923 the University of Maryland conferred the same degree upon him.

These honors have come as a recognition of long service and accomplishments as an investigator of fundamental problems of dairying, especially those of a bacteriological, chemical, and physiological nature.

Dr. L. A. Rogers, B. S., D. Sc., entered the department in 1902 as an expert in dairy bacteriology. A few years later he was advanced to take charge of the dairy research laboratories, which position he now holds in the Bureau of Dairying. He is the author of a long list of technical papers and bulletins dealing with fundamental dairy problems.

Only Legume Crops Are Helped by Inoculation

Alfalfa, clover, vetch, peas, soybeans, cowpeas, and other legumes attain their best development if their roots have many well developed nodules wherein nitrogen fixing bacteria are present in large numbers. Not all soils contain these bacteria in the right quality or quantity to assure a normal natural inoculation. Therefore, in many cases the department recommends the artificial inoculation of legumes with properly prepared cultures.

On the other hand, corn, wheat, oats, rye, potatoes, tobacco, cotton, and other nonlegumes do not harbor such nitrogen fixing bacteria on their roots, nor in their stems or leaves, although such assertions are sometimes made. Accordingly, all these plants are dependent on the available nitrogen which they will find in the soil. Humus is the main source of this nitrogen, but again bacteria are necessary to break down the humus and to make its nitrogen available. A naturally productive soil is rich in all kinds of bacteria, but if there is not sufficient activity or no "life" in a soil the application of animal manure and of lime together with proper tillage will, as a rule, greatly improve the situation. Growth and activity of the bacteria present in the soil will be stimulated, and more bacteria will be incorporated in the soil with the animal manure, which always carries large numbers of such organisms.

Many investigators have tried to select and to cultivate these useful bacteria in the laboratory and to inoculate the soil or the seeds of nonleguminous plants with them, hoping that results would be secured similar to those with legume inoculation. However, all efforts made in this direction have failed thus far, and commercial cultures, advertised and sold for the inoculation of cereals, cotton, tobacco, lawn, flowers, etc., have been found without value for the farmer. Usually these preparations contain certain substances (dried animal manure, compost, guano, phosphates, potash, lime, prepared humus) which act as fertilizers, and if in pot tests or on small plots relatively large quantities of them are applied, some beneficial effect may become noticeable. The department warns the farmer, however, against wasting his money on such very doubtful preparations, and urges that even the most alluring claims should fall on deaf ears. One of these worthless products, widely advertised at present, is essentially a mixture of manure and compost. It is sold at a rate of \$1 per pound.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Why may the water-bath method of processing be used in the home canning of fruits and tomatoes, whereas nonacid vegetables must be processed under pressure?

Answer. For successful canning the temperature applied should ordinarily be the lowest possible that will insure a safe product. While no growing or so-called vegetative bacteria will survive for any length of time at the temperature of boiling water (212° F.), some bacteria are able to go into spore form. These spores are killed only by very long-continued heating at boiling temperature, especially if the fruit or vegetable being canned has juice that is alkaline or only very slightly acid. When the juices are acid, as in fruits and tomatoes, all forms of bacteria are killed more quickly at 212° F., which is the highest temperature possible in the water bath. Corn, peas, beans, and other vegetables that do not have acid juice need to be processed under steam pressure at temperatures higher than 212° F.

Question. What percentage of the annual consumption of forest products is used as lumber?

Answer. About one-third of all the timber taken from American forests yearly goes into the form of lumber. The only item which exceeds lumber in the quantity of wood consumed is firewood. According to the best figures now available, fence posts comprise about 7 per cent of the wood removed from the forests, hewed ties 3 per cent, and pulp wood 2 per cent. At least 10 per cent is attributed to destruction by forest fires and the depredations of insects and disease.

Question. What proportion of the meat slaughtered in the United States is uninspected?

Answer. According to the Bureau of Animal Industry, in 1924 the Federal meat inspection covered 66.5 per cent of the estimated total slaughter. The remaining 33.5 per cent was uninspected except for a small indeterminate portion which underwent inspection by State and local authorities.

Question. What is the Australian tomato weevil, where does it occur in the United States, and what is the nature of its injury?

Answer. The Australian tomato weevil is a small, brown, snout beetle, about five-sixteenths inch long. Both beetles and the immature stages of this insect remain hidden in the daytime and feed at night, principally on such vegetable crops as turnips, potatoes, and tomatoes, attacking the foliage of potatoes and tomatoes, but attacking both the foliage and the roots of turnips. The insect occurs in south Mississippi, southeastern Louisiana, southern Alabama, and in the vicinity of Pensacola, Fla. It was probably introduced into this country from South America not many years ago. This insect also occurs in Australia, where it is a serious pest of potatoes, tomatoes, and the buds of fruit trees.

Cooperate to Secure Daily Weather Data by Airplane

The Bureau of Aeronautics of the Navy Department and the Weather Bureau, cooperating, have recently undertaken to secure daily (excepting, as yet, Saturdays, Sundays, and holidays) observations in airplanes at the naval air station, Anacostia, D. C. The present plans provide for the flights to be made about 8 a. m., and to reach a height of at least 3,000 meters. The data are to be available to the forecaster by 9.30 a. m., and will include the temperature and relative humidity at the surface, 250 meters, 500 meters, 1,000 meters, etc., at 500 meter intervals to the highest elevation reached; the extreme values of these elements at intermediate heights whenever they show an appreciable deviation from a linear change; and supplementary notes regarding conditions of special interest, such as visibility, cloud heights, thickness, etc.

The program mapped out, while planned in greater detail than ever before by the Weather Bureau, has for the past year been carried out to some extent at the naval air station at San Diego, Calif., and the data have been communicated to the district forecast center at San Francisco. The official in charge of that station states that, although they have not received the humidity data, the temperatures, together with the free-air wind observations, furnish excellent material for the use of the forecaster. The fact that airplanes require less time than a kite to complete a flight is most important, since the forecaster must have this information within a very short time after the observation is completed if the most effective use is to be made of it.

The practical benefits to be derived by having these free-air records of temperature and humidity, in addition to the free-air wind movements, available to the forecaster are obvious and, while the results from only one station are as yet available, it is hoped that this work can gradually be extended to other Army and Navy flying fields in different parts of the country.

INDIANA CHAMPIONS VISIT DEPARTMENT

Ten of Indiana's champion young farmers and home makers were greeted at the department by Assistant Secretary Dunlap and members of the office of co-operative extension work on June 10. These young people are all members of farm boys' and girls' clubs who last year made outstanding records of accomplish-

ment in some farming or home-making enterprise, which won them the trip to the Capital.

The State average yield of corn per acre was exceeded by five of the boys by the wide margin of 63 bushels, their corn crops averaging 101.8 bushels to the acre. The champion corn growers were Moddise Strater, of Dekalb County; Byron Troyer, of Wabash County, and Harold Peter, of Vanderburg County. Robert Wilson, of Delaware County, is livestock champion. The steer which he owned and fed last season was grand champion in club classes at the Indiana State Fair and first in his class at the International Livestock Show.

Gladys Davidson, of Montgomery County, baking champion, made 108 loaves of yeast bread and an imposing number of rolls, biscuits, cookies, pies, and cakes; the sewing champion, Opal Collins, of Delaware County, made 65 garments and household articles; Helen Wissing, of Rush County, is canning champion with 1,271 quarts of canned fruits, vegetables, meats, and relishes to represent her year's efforts. Maxine Morris, of Allen County, kept a health-habit record and made health posters which won the State prize. The prizes were offered by the State board of agriculture, State home economics association, breeders' associations, and other co-operating agencies.

The boys and girls were accompanied by M. L. Hall, Neva Stephenson, Helen Reitemeier, and Meta Martin, of the agricultural extension service, Purdue University, La Fayette, Ind. Points of interest in and about Washington were visited by the party June 9-12.

Nos. 8 and 9 in the mimeographed series of "Bibliographical Contributions of the United States Department of Agriculture Library" are now in press and will soon be ready for distribution. No. 8 is an author and subject index of publications on plant pathology issued by the department up to January 1, 1925, compiled by Miss Jessie M. Allen, librarian of the Bureau of Plant Industry. No. 9 is a bibliography on the world food supply, compiled by Miss Margaret T. Olcott, assistant librarian of the Bureau of Agricultural Economics.

The library of the department has recently received from Moscow, Russia, a typewritten list of 245 scientific research institutions and universities in the Union of Soviet Socialist Republics for which the supply of foreign literature and exchange of books is recommended by the U. S. S. R. Society of Cultural Relations with Foreign Countries. The institutions in the list are arranged in the order of precedence.

WITH EXTENSION FORCES

INCREASE POTATO YIELDS

Potato yields in Chester County, Pa., had remained at the low average of about 86 bushels per acre for many years, when improvement of the crop was made a part of the extension program for 1920 in that county. Also practically 80 per cent of the crop sold as table stock had been diseased. Nine thousand acres or more are planted in the county each year, potato growing being a side line on many of the dairy farms.

County Agent William Vandegrift first took up the matter of better seed. He found 12 farmers in 1920 who were willing to try northern grown, certified disease-free seed, and a carload was divided among them. In each case the crop from certified seed was more than double that from common seed and several farmers reported harvesting 200 bushels an acre. The potatoes were also of much better quality. As a result it was possible the next year to interest enough farmers to require three cars of certified seed.

Spraying was added to the improvement program in 1921 also. Three farmers who had tried the certified seed volunteered to conduct spraying demonstrations in their fields, leaving a small portion of their crop unsprayed for check. Field meetings were held at each of these places so that the people of the communities could compare sprayed and unsprayed yields. An increase of from 19 to 33 bushels per acre resulted from spraying, netting \$45 per acre above cost of spraying in one case.

Eight carloads of certified seed were brought into the county in 1922 through the farm bureau and three dealers became interested and were assisted in locating desirable seed. There were five demonstrations in spraying this year, which averaged an increase of 52.7 bushels over unsprayed plots. Field meetings were held at each of these demonstration fields and everybody attending helped with the digging and weighing. This gave opportunity to examine the tubers thoroughly and also led to a number of questions about various cultural practices.

However, a number of farmers in one community had been convinced of the value of spraying by the first year's demonstrations and wished to carry on the practice, but felt they could not give it the proper attention. For this difficulty a spray ring was organized. Ten men pooled 68 acres, bought a sprayer cooperatively, and employed a high-school student in vocational agriculture

to do the spraying under the supervision of the extension office. About five sprays were given, at a cost of \$11.19 per acre. This spray ring has continued with little change in membership and has given much satisfaction to the farmers.

Standardization and grading are now written in the potato-improvement program. But better seed and spraying are kept continuously in the plan. Twenty-three cars of certified seed were used in 1924. Four new spray rings were organized and two carloads of sprayers were bought individually during the year. Many men are striving for a 400-bushel record, and two club boys attained it in 1924. "This is a striking contrast," one of the growers remarked, "to 50 years of satisfaction with an 86-bushel yield."

FEDERAL BUSINESS ASSOCIATIONS

The Weather Bureau reports that several members of its personnel have been elected officers in the various Federal business associations. Morgan R. Sanford was recently elected president of the Federal Business Association of Syracuse and Gershom K. Greening was chosen for a similar position in the Sioux City organization. Newly organized associations at Juneau, Pensacola, Pueblo, and Shreveport have elected the following: Ralph C. Mize, secretary, Juneau; Elward W. Holcomb, vice president, Pensacola; Harvey B. Dick, chairman, Pueblo; and James W. Cronk, secretary, Shreveport. Several months ago Otto E. Moery was reelected secretary of the Terre Haute association, and more recently Dewey A. Seeley was reelected to a similar position in the Lansing association.

EXTENSION DIRECTORS APPOINTED

C. Larsen, dean of the college of agriculture, South Dakota State College of Agriculture and Mechanic Arts, Brookings, has been appointed director of the agricultural extension service, effective July 1, to fill the vacancy caused by the resignation of W. F. Kumlien to accept the position of head of the rural sociology department of the college.

J. C. Taylor has been appointed director of agricultural extension work, Montana State College of Agriculture and Mechanic Arts, Bozeman, to succeed President Alfred Atkinson, effective July 1. Director Taylor has been assistant director of extension during the past year and previous to that had served for several years as county agent leader, and was one of the first county agents appointed in Montana some 10 years ago.

SUMMER CAMP FOR FARM WOMEN

Farm women's camps will be held in two additional western States this year, Idaho and Wyoming. Idaho women's first camp will be at Weiser in Washington and will be of three days' duration. Wyoming plans farm women's camps at three points in the State during July. The programs follow the general lines adopted in other States and include intensive training for leadership in home-making extension projects, given under camp environment, with recreational features. General plans for the training are made by the State extension staffs and local arrangements, equipment, and details of the programs are to be in charge of the home demonstration agents in counties in which camps are located.

Washington will hold its second annual farm women's vacation camp at Pullman, June 22-27, during the week of the boys' and girls' club camp, the club leaders' conference, and the farmers' camp. Women's camps will also be held at two other points during July.

Montana, where the first of these camps conducted in the West was held in 1922, will have farm women's camps at seven points, one more than last year. The first begins June 28, the last ends July 25. Each has a four-day program.

Representatives of the Office of Cooperative Extension Work plan to visit a number of these camps and will assist with the programs. Two of the Montana camps will be attended by Miriam Birdseye and one by Florence E. Ward. Madge J. Reese will be at the Idaho, Wyoming, and Pullman (Wash.) camps. W. A. Lloyd will attend two of the camps in Wyoming.

ROAD OVER SALT BEDS A GREAT ACHIEVEMENT

(Continued from page 1)

system which we require, and while it is a splendid engineering achievement, I feel that the completion of this road is, first of all, a lesson in the value and wisdom of cooperative endeavor in the construction of the principal roads. Toward the building of this road each interested governmental unit—county, State, and United States—has given of its resources in proportion to the benefits it will receive, and an improvement which it would have been impossible or inadvisable for anyone to undertake alone has been successfully achieved by a splendid cooperation. We may well reach, as the best result of this effort, increased resolution to go forward until we shall have reached the goal toward which our efforts are directed—the completion of a well-balanced and thoroughly articulated system of highways."

BRIEF REVIEWS OF NEW BULLETINS

Retail Marketing of Meats. Agencies of Distribution, Methods of Merchandising, and Operating Expenses and Profits. By Herbert C. Marshall, specialist in economic research, Bureau of Agricultural Economics. Pp. 86, figs. 5. June, 1925. (Department Bulletin 1317.) Price, 15 cents.

This bulletin presents the details of the studies in meat marketing made previous to the current year when another study of methods, practices, costs, and consumer demand was begun. It presents data collected by personal canvass from more than 3,600 stores concerning merchandising methods, and profits taken from the accounting records of 15 chain-store systems and 285 individually operated stores. Comparisons are made of different types and classes of stores with reference to service rendered, volume of sales, grades of meat handled, methods and extent of advertising, sanitary conditions, and experience and racial origins of the dealers.

The Flight Activities of the Honeybee. By A. E. Lundie, formerly field assistant, Bee Culture Laboratory, Bureau of Entomology. Pp. 38, figs. 13. May, 1925. (Department Bulletin 1328.) Price, 10 cents.

The bulletin describes the invention and perfection of a device for counting the bees as they enter and leave the hive and discusses the conclusions formed from their activities over a period of 89 days. The investigators believed that the development of this counting device will open up a new field of agricultural research. In addition to throwing light on many interesting questions, its most practical application would perhaps be in a study of nectar secretion, as it affords a measure of the variations in flight and in the duration of a number of trips which the bees make, as well as their average daily load—facts which are to a large degree a reflection of the nectar conditions of the field.

The Wichita National Forest and Game Preserve. By S. M. Shanklin and James E. Scott. District 7 (Eastern District), Forest Service. Pp. 11, figs. 5. May, 1925. (Miscellaneous Circular No. 36.) Price, 5 cents.

This bulletin portrays the growth of a small band of 15 bison, donated to the Government by the New York Zoological Society in 1907, to a noble herd numbering to-day in excess of 200 head. The importation and growth of the elk and deer herds now in Wichita Forest are also covered, while the story of the hopeful attempts to establish a band of antelope is especially appealing. The big game of the preserve, together with the wild turkeys, the abundance and variety of native bird life, according to the booklet, have created a great public interest in this national forest, by no means confined to Oklahoma or the Southwest. Good roads have made the area readily accessible to the motoring public, and there is a marked increase each year in the number who come to view the unique scenic attractions, combined most interestingly with opportunities for observation and study of game bird and animal life.

Extension Work in Agricultural Engineering. 1923. By Guy Ervin, assistant irrigation engineer, Bureau of Public Roads. Pp. 10, figs. 5. June, 1925. (Department Circular 344.) Price, 5 cents.

Extension work in agricultural engineering is of great assistance to farmers according to this circular. About 20 more or less distinct lines of work were reported on by extension specialists, including such rather unusual sub-

jects as lime burning, sewing-machine schools, farmstead planning, and radio. The agricultural engineer aids in bringing farm land to a higher state of production by drainage, terracing, irrigation, and clearing of stumps and boulders. He makes farm life more enjoyable, attractive, and healthful by showing the farmer how to install modern plumbing, electric lights, septic tanks, and heating plants. He helps to increase the profitability of livestock and poultry by designing and furnishing plans for farm buildings and by encouraging the erection of silos and the use of self-feeders. The circular just issued reports activity along these lines by extension workers.

ADDITIONAL PUBLICATIONS

Journal of Agricultural Research. Vol. 30, No. 4, Feb. 15, 1925. Contents: Root Rot of Peas in the United States Caused by *Aphanomyces euteiches* (N. Speg.) (G-456.) By Fred. Reuel Jones and Charles Drechsler.—Direct Inoculation of Coniferous Stems with Damping-Off Fungi. (G-407.) By Annie Rathbun-Gravatt.—Root Rot of the Grapevine in Missouri Caused by *Citryobolus tabescens* (Scep.) Bres. (Fla-2.) By Arthur S. Rhoads.—Control of Mycelial Neck Rot of Onion by Artificial Curing. (G-454.) By J. C. Walker.—Relative Susceptibility of Selections from a Fulghum-Swedish Select Cross to the Smuts of Oats. (G-450.) By George M. Reed and T. R. Stanton. Pp. 293-391, figs. 3, pls. 19. Price, 20 cents.

Vol. 30, No. 5, March 1, 1925. Contents: A Comparison of Direct and Indirect Calorimetry in Investigations with Cattle. (Pa-13.) By Max Kriss.—The Life History of *Pilaera Fagnina*. (Fr.) B. and Br. (G-453.) By C. L. Shear and B. O. Dodge.—Toxicity Studies with Dicyandiamide on Plants. (R-4.) By F. E. Allison, J. J. Skinner, and R. Reid.—Studies on the Single-Injection Method of Vaccination as a Prophylactic Against Rabies in Dogs. (A-93.) By Harry W. Schoening.—The Strawberry Root Louse in Tennessee. (Tenn-3.) By S. Marcovitch.—The Effect of Sulphur and Gymnast on the Fertility Elements of Palouse Silt Loam. (Wash-3.) By Lewis W. Erdman.—Phytophthora Rot of Pears and Apples. (G-449.) By Dean H. Rose and Carl C. Lindgren.—Some Physical and Chemical Properties of Carotin and the Preparation of the Pure Pigment. (G-458.) By F. M. Schertz.—The Life History of the Texas Root Rot Fungus, *Oozonium omnivorum* Shear. (G-462.) By C. L. Shear.—The Distribution of the Alfalfa Weevil (*Pythonomus posticus* Gyll.) : A Study in Physical Ecology. (Mont-12.) By William C. Cook. Pp. 393-491, figs. 19, pls. 10. Price, 20 cents.

Vol. 30, No. 6, March 15, 1925. Contents: Infection and Dissemination Experiments with Degeneration Diseases of Potatoes. Observations in 1923. (G-473.) By E. S. Schultz and Donald Folsom.—Studies of Spore Dissemination of *Venturia inaequalis* (Cke.) Wint. in Relation to Seasonal Development of Apple Scab. (Wis-28.) By C. N. Frey and G. W. Keitt.—Reaction Between Mortality of Tobacco Attacked by the Spore Budworm (*Cacoecia fumiferana* Clem.) and Previous Growth. (K-136.) By F. C. Craighead.—Review of the Nematode Genera *Syngamus* Sieb. and *Cyathostoma* E. Blanch. (A-81.) By Edward A. Chaplin.—Cooperia bisonis, a New Nematode from the Buffalo. (A-91.) By Eloise B. Cram.—Some Physical and Chemical Properties of Xanthophyll and the Preparation of the Pure Pigment. (G-479.) By F. M. Schertz.—Physiological Studies on Cereals. III.—The Occurrence of Polypeptides and Amino Acids in the Ungerminated Maize Kernel. (G-484.) By S. L. Jodidi. Pp. 493-592, pls. 14. Price, 20 cents.

Vol. 30, No. 7, April 1, 1925. Contents: Relation of Weather Conditions to the Spread of White Pine Blister Rust in the Pacific Northwest. (G-429.) By L. H. Pennington.—The Construction of Tapered Rods as a Fertilizing Agent in Organic Debris. (E-33.) By Charles Thom and Elbert C. Lathrop.—Relative Suscepti-

bility of Citrus Varieties to Attack by *Gloeosporium limeticolum* (Clausen). (G-480.) By Harry R. Fulton.—Reforestation by Seed Sowing in the Northern Rocky Mountains. (P-22.) By G. W. Wahlenberg.—Two Imported Egg Parasites of the Gipsy Moth, *Anastatus bifasciatus* Foisne, and *Schedius kuvanae* Howard. (K-150.) By S. S. Crossman.—New Nematodes from North American Mammals. (A-84.) By Edward A. Chaplin. Further Investigations of Infectious Equine Anemia in Nevada. (Nev-3.) By Lewis H. Wright. Pp. 593-691, figs. 39. Price 20 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semi-monthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic, and 25 cents foreign price.

Monthly Weather Review. Vol. 53, No. 3, March, 1925. Pp. 99-139, figs. 13, charts 13. Special articles. An account and analysis of the Meisinger free-balloon flights. By V. E. Jaki.—On the mean variability in random series. By E. W. Woodard.—Energy distribution in the visible spectrum of sunlight and skylight. By H. H. Kimball.—Recent oceanic phenomena along the coast of South America. By R. C. Murphy.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges, and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Chemistry Supplement No. 194. Notices of Judgment 13151-13200. Pp. 79-108. June, 1925. Price 12 cents.

Bureau of Chemistry Supplement 195. Notices of Judgment 13201-13250. Pp. 105-128. June, 1925. Price 5 cents.

Soil Survey of Benton County, Iowa. By Clarence Lounsbury and J. Ambrose Elwell, of the U. S. Department of Agriculture, and Bryan Boatman and L. H. Benton, of the Iowa Agricultural Experiment Station. Pp. 30, fig. 1, map. (From F. O. Soils, 1921.)

Soil Survey of Jasper County, Iowa. By D. S. Gray and A. M. O'Neal, Jr., of the Iowa Agricultural Experiment Station, and R. E. Devereux and S. B. Cole, of the U. S. Department of Agriculture. Pp. 42, fig. 1, map. (From F. O. Soils, 1921.)

Specifications for United States grain standards and bulletins relating to our standardization work have been furnished the Rumanian Government for use in preparing grain standards for that country.

G. T. Willingmyre, representing the Bureau of Agricultural Economics; Dr. F. P. Veitch, representing the Bureau of Chemistry; and A. T. Goldbeck, B. A. Anderton, F. H. Jackson, H. M. Milburn, and E. B. Smith, all of the Bureau of Public Roads, are attending the annual convention of the American Society for Testing Materials, which is being held at Atlantic City this week.

PRINCIPAL LIBRARY ACCESSIONS

VETERINARY MEDICINE

Franko, A. W. R. Das spezifische gewicht des milchserums bei euterkrankten kühn. Berlin, 1924. Inaug.-diss.

Klimmer, Martin. Seuchenlehre der landwirtschaftlichen nutztiere. 4. auf. Berlin, P. Parey, 1925.

DAIRYING

Gt. Brit. Ministry of agriculture and fisheries. Report of investigations into methods of whey disposal. London, 1924. Mimeographed.

Laxa, Otakar. Sýrašťví. 2. opravené. Praha, Československé podniky tiskářské a vydavatelství. 1924.

Macklin, Theodore. A history of the organization of creameries and cheese factories in the United States. Madison, 1917. Type-written. Thesis.

PHYSICS

Crowther, J. A. Ions, electrons, and ionizing radiation. 4th ed. New York, Longmans, Green, 1924.

ZOOLOGY

Batten, H. M. British wild animals. London, Pearson, 1924.

Grinnell, G. B. Hunting and conservation. The book of the Boone and Crockett club. New Haven, Yale university press, 1925.

Janet, Charles. Sur la phylogénèse de l'orthobionte. Limoges, Ducourtieu et Gout, 1916.

BIOLOGY

Pearle, Raymond. Studies in human biology. Baltimore, Williams and Wilkins, 1924.

BOTANY AND HORTICULTURE

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EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library all copies of the following publications of the State experiment stations during the week of June 8-13, 1925. Copies of these publications may be obtained from the stations issuing them.

Explanatory note. E. D. Merrill. Fruit-bud differentiation in deciduous fruits. W. P. Tufts and E. B. Morrow. (Hilgardia [California Sta.], vol. 1, No. 1, pp. 14, pls. 12. May, 1925.)

The anticatabolic value of commercially concentrated orange juice. H. Goss. (Hilgardia [California Sta.], vol. 1, No. 2, pp. 15-34, figs. 14. May, 1925.)

Factors affecting efficiency in fumigation with hydrocyanic acid. H. Knight. (Hilgardia [California Sta.], vol. 1, No. 3, pp. 35-56, figs. 10. May, 1925.)

An accurate method of calculating ice cream mixes. G. D. Turnbow and C. M. Titus. (Hilgardia [California Sta.], vol. 1, No. 4, pp. 57-79. May, 1925.)

Fruitrotting. Sclerotinia.—II. The American brown-rot fungi. W. N. Ezekiel. (Maryland Sta. Bul. 271, pp. 87-142, figs. 22. Oct., 1924.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. E. Perry. (Massachusetts Sta. Met. Bul. 457, pp. 1-10. May, 1925.)

Forty-third annual report for 1923-24. C. G. Williams. (Ohio Sta. Bul. 382, pp. 68, figs. 16. June, 1924.)

A study of the biological activities in certain acid soils. W. V. Halvorsen. (Oregon Sta. Bul. 211, pp. 26, figs. 5. Feb., 1925.)

Preliminary studies relating to harvesting and canning of sweet cherries. H. Hartman. (Oregon Sta. Circ. 61, pp. 22, figs. 7. May, 1925.)

Weed and their control. E. J. Petry. (South Dakota Sta. Bul. 211, pp. 82, figs. 46. Dec., 1924.)

Organization and management of typical West Virginia farms. A. J. Dadisman. (West Virginia Sta. Circ. 38, pp. 4. May, 1925.)

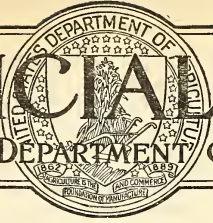
The Mexican bean beetle. L. M. Pears. (West Virginia Sta. Circ. 39, pp. 7, figs. 4. June, 1925.)

Soybeans.—A good legume crop—borrowed from the Orient. R. A. Moore, E. J. Delwiche, and G. M. Briggs. (Wisconsin Sta. Bul. 375, pp. 32, figs. 14. Apr., 1925.)

C. F. Monroe, director of extension in New Mexico, has consented to take charge of the final compilation of the range livestock handbook requested, by western extension directors some time ago. This material has been assembled by a special range livestock committee from the various bureaus and covers the research work of the department bearing on range livestock and range management. Director Monroe will be in the department for the next three or four weeks with headquarters at the office of cooperative extension work.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JULY 1, 1925

No. 26

ECONOMY STRESSED AT BUSINESS MEETING

President Coolidge Asks for Further Reductions in Government Expenses

"We are seeking to let those who earn money keep more of it for themselves and give less of it to the Government," said President Coolidge in opening his address before the meeting of the Business Organization of the Government, June 22. "This," he continued, "means better business, more of the comforts of life, general economic improvement, larger opportunity for education, and a greater freedom for all the people. Government extravagance is not only contrary to the whole teaching of our Constitution, but violates the fundamental conceptions and the very genius of American institutions."

Four Years of Budget System

The high lights of the President's address are given in the following paragraphs:

"It is four years since the holding of the first meeting of the business organization of the Government. The Federal Budget system had just been established and we met to dedicate our services to its successful operation and to reduce the cost of government. That first meeting was held at the end of the fiscal year 1921. During that fiscal year our expenditures, exclusive of the moneys applied to the reduction of the public debt and the operations of the Postal Service, amounted to \$5,116,000,000. Our public debt then amounted to \$23,977,000,000. We are now nearing the close of the fiscal year 1925. The expenditures for this fiscal year will amount in round figures to \$3,035,000,000, and the public debt will stand at approximately \$20,551,000,000.

"In the four years of operation under the Budget system the annual expenditures have been reduced \$2,081,000,000 and the public debt has been decreased

\$3,426,000,000. This shows concretely what has been accomplished by the joint effort of the executive and legislative branches of our Government. It is an accomplishment which has further tested our institutions. It is an accomplishment which justifies the abiding faith of the people in our form of representative government. Full measure of credit is due the Congress, which, as representing the people, has supported and aided the Executive Budget. The history of public affairs will hardly show a parallel case of retrenchment in the cost of government." * * *

While the returns are not all in, it is estimated that we will end this fiscal year with a surplus of \$200,000,000. It is estimated that our surplus for the next fiscal year will reach \$290,000,000. The way has been prepared for further tax reduction. This I will recommend to the Congress in the next Budget message. * * *

We adopted the principle of orderly funding and generous retirement of the huge public debt left us as a legacy of the war. In the last three fiscal years the reduction has been \$2,726,000,000 and it is probable that the fiscal year just closing will show a further reduction of \$700,000,000, a total of \$3,426,000,000. Interest paid in the year 1921 was \$1,000,000,000, but interest this year will be only \$870,000,000, or a saving of \$130,000,000 a year. Here is a direct saving which is plain to everyone.

Improved Credit Saves \$130,000,000

"Let us see the part which orderly management had in effecting this saving. Our sound debt policy has progressively strengthened the credit of our Treasury. Bonds which in 1921 were selling much below par are to-day selling well above. As the price of our securities goes up, the interest rate which we must pay on new flotations declines. This month the Treasury offered a 3 per cent one-year certificate on which the subscriptions were nearly four times the amount of the offering. Of \$130,000,000 of decrease in interest payments between 1921 and 1925, part of the saving came because

(Continued on page 7)

EASTERN STATES HOLD T. B. CONFERENCE

Department Representatives Report Favorable Progress in Eradication

The progress being made in the campaign for the eradication of tuberculosis from livestock and the outlook for freeing the Eastern States of this disease, were discussed by Dr. J. A. Kiernan, tuberculosis eradication division, Bureau of Animal Industry, at the sixth annual Eastern States Conference on the Eradication of Tuberculosis in Livestock, held at Providence, R. I., on June 16 and 17. This conference was under the auspices of the Federal Bureau of Animal Industry, Rhode Island State Board of Agriculture, Rhode Island Veterinary Medical Association, Rhode Island Ayrshire Club, Rhode Island Holstein-Friesian Club, and the Providence Chamber of Commerce. Doctor Kiernan's talk was illustrated with maps showing the present and probable future distribution of the disease in each of the Eastern States.

States Should Handle Modified Areas

Referring to the work of the Federal Bureau of Animal Industry in tuberculosis eradication, Dr. J. R. Mohler, chief of that bureau, stressed the fact that the bureau should not be expected to go back into a "modified area" for the purpose of retesting cattle. "This is where it becomes the sole duty of the State to supervise the traffic in cattle so as to prevent the reintroduction of infection," stated Doctor Mohler. "It has been demonstrated clearly, not only in tuberculosis work, but also in other lines of work, that the livestock owners of a county are willing to do their share in controlling disease. They have in tuberculosis eradication, and in other lines, drawn funds from the county government or from a town government for such work. I do not imply that every

county should permanently employ veterinarians to do livestock disease control work, but every county and every State should have an organization, either of local veterinarians, accredited veterinarians, or some veterinary service, at their command that is adequate to cope with infectious diseases. It is the county's business and the State's business to see that the individual livestock owners are not maintaining a menace to the industry. Not only should it be a personal and private matter, but there should also be public knowledge of the condition of the herds. I have expressed myself at length on this subject, because I think it my duty to impart to you the impressions received from Congress and from others of the necessity of at some time bringing to an end the demand for increasingly large Federal appropriations. The danger to our Government of the deep inroads into our Treasury, the funds for which must be obtained by taxation upon our people, has been pointed out on numerous occasions recently."

A New Artificial Tuberculin Made

Dr. M. Dorset, chief of the biochemic division, Bureau of Animal Industry, speaking on "Tuberculin," reported some progress made in the search for the active principle of tuberculin. Doctor Dorset also reported that rather recently a tuberculin known as "Special F" has been made from a simple, artificial medium, and some 10,000 doses distributed to the Federal inspectors. Preliminary reports have indicated that this new product is at least as good and perhaps better in some respects than the regular product, but final judgment of the field men is awaited with interest.

The accuracy of the tuberculin test was discussed by Dr. E. C. Schroeder, superintendent of the Bureau of Animal Industry Experiment Station at Bethesda, Md. Speaking of the so-called "no-lesion" cases—that is, animals that react to the test and on ordinary post-mortem examination disclose no lesions, Doctor Schroeder pointed out that of the total number of reactors slaughtered during April, 1925, the percentage of such cases was 8. Of this 8 per cent, about one-fourth proved to be tuberculous by laboratory examination—thereby leaving a very small percentage of cases in which the disease was not demonstrated.

Other outstanding addresses were delivered by Dr. W. A. Evans, health department, Chicago Tribune; Dr. Henry E. Utter, Providence, R. I.; Dr. Thomas F. Kenney, director, board of health and school hygiene, Worcester, Mass.; M.

S. Prescott, editor, Holstein-Friesian World, Lacona, N. Y.; Prof. R. H. Smith, livestock commissioner, National Livestock Exchange, Chicago, Ill.; C. L. Burlingame, secretary, Ayrshire Breeders' Association; Dr. Louis A. Klein, dean, School of Veterinary Medicine, University of Pennsylvania; and Dr. J. W. Shrader, director, food and chemistry, health department, Baltimore, Md.

Exhibit Receives Much Praise

A most interesting exhibit was prepared in the Bureau of Animal Industry and forwarded to Providence for the conference. A portion of the exhibit consisted of painted charts and maps containing data of the tuberculosis eradication work, and many favorable comments were made upon it.

The incidence of tuberculosis in the States participating in the conference is unfortunately above that of the average for the country at large. Recognizing this, the livestock sanitary officials of that section are intensively engaged in combating the disease, not only by reason of its economic importance to the industry but also because of its more important health phase, which is so pronounced in the more congested centers of population. Because of this fact the public-health phase of the work was perhaps emphasized more in the proceedings.

More than 500 people from the New England States, New York, Pennsylvania, New Jersey, Delaware, and Maryland attended the conference. The consensus of opinion was that most favorable progress is being made in the work, the only limitations being those imposed by lack of necessary funds. A tentative agreement was made to hold the next annual conference in Vermont.

Federal Game Warden is Again Shot at From Ambush

K. F. Roehen, Federal game warden of the Biological Survey, was driving his automobile through the Illinois River section between Havana and Peoria, Ill., a short time ago, when a rifle bullet fired by an unknown person pierced one of the rear tires of his car. He spent some time investigating in the near-by woods, but was unable to find out by whom the shot was fired. Whether this was an attempt on his life, or a stray bullet, is only conjecture.

While performing official duty in practically the same section last spring, Warden Roehen, in company with M. A. Charlton, another Federal game warden, was shot from ambush by an outpost

for a party of market hunters. Both wardens were seriously injured and were only able to leave the hospital and return to duty after several weeks. In this instance Warden Charlton, who is in charge of the Ohio district, was on special duty in Illinois assisting Warden Roehen in suppressing violations of the migratory bird treaty act in the Illinois River region. They had heard considerable shooting and while gradually working toward the point where it was going on, discovered a full case of shotgun shells and two sheep-lined coats. As they stopped to make observations with a view to locating the hunters, a man concealed behind a tree about 25 yards away, evidently a guard for the hunters, opened fire on them with a shotgun. That the violators were market hunters was evident from the case of shells and the fact that a guard was watching for persons who might disturb them in their illegal activities.

The wardens had practically no cover whatever from the fire, and although they returned it the assailant was well protected by the tree in front of him and at the sound of firing was joined by two of his companions. The three then closed in on the wardens, all of the hunters keeping well protected behind trees. It is thought that the one who started the shooting was wounded, for he called to the wardens that if they would retreat he and his companions would do likewise and there would be no more shots exchanged. As the wardens were practically surrounded and their gun hands so weak they could not use them, this was their only choice.

The two wardens, with dozens of No. 5 shot in their bodies, had to walk back through the river bottoms about 5 miles to their boat, row for some distance, and then drive to the nearest town, more than 25 miles away, before they could receive medical attention. Mr. Roehen has had 10 operations for the removal of shot from his head, arms, and hands.

Immediately following the shooting, both Federal and State agencies were put to work in an effort to apprehend the assailants. In addition, a reward of \$500 was offered by the Chicago Chapter of the Izaak Walton League of Illinois for information leading to the arrest and conviction of the guilty parties. Several clues have been unearthed and it is hoped that the assailants will be brought to trial at an early date. This was the second attempt to murder United States game wardens in the Illinois River region, a Federal deputy having been wounded by an unknown person about two years ago while in the performance of his official duty.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

1924 MAJOR CROPS BRING PROFITS

The average cost last year of producing wheat on 4,616 farms distributed fairly well over the country was \$1.22 per bushel, compared with an average sale value of \$1.43 a bushel, the department has announced. The average cost of the corn crop on 7,153 farms was 82 cents a bushel, compared with a sale value of \$1.10 a bushel, and the average cost of oats on 5,509 farms was 50 cents a bushel, compared with a sale value of 57 cents a bushel. Reports from 284 cotton growers having average yields of 161 pounds of lint per acre show an average cost of 18 cents a pound and an average sale price of 23 cents per pound. For potatoes in different sections of the country average production costs were below the average selling price, but the margin was less than in 1923.

FARMERS LARGE USERS OF POWER

The American farmer ranks next to the railroads and leads both the manufacturing and mining industries in the use of power, according to a report just issued by the department. Approximately 60 per cent of the power utilized on farms is animal power. Tractors account for nearly 17 per cent, motor trucks about 4 per cent, stationary engines 12.5 per cent, windmills a little more than 1 per cent, and electrical installations 5.5 per cent.

FARMS SHOW IMPROVED RETURNS

An average cash balance of \$1,024, the margin of cash receipts over cash expenses, was returned to owner-operators in 1924 on 15,103 farms surveyed by the department. In addition to this margin, these farms increased inventories of crops, livestock, machinery, and supplies \$181, making an average return of \$1,205 for the use of \$17,260 of capital and the labor of the farmer and his family. These farms also produced food and fuel consumed on the farm estimated to be worth \$266 on the average.

REPORT ON FARM LABOR CONDITIONS

Farmers in the Northeastern States are meeting with increased difficulty in getting enough efficient hired labor, says the department, which has just com-

pleted a study of farm-labor conditions in those States. In many instances the farmers can not get help at all. This shortage is partly because of the seasonal nature of farm work, but more important is the fact that farm workers are often poorly paid and poorly housed. Some farmers are unable to offer good wages and good living conditions. Others are shortsighted enough to turn down capable men because they ask a higher wage than less capable men ask. These farmers do not realize that savings thus made in wage costs are usually offset by losses from inefficiency.

WARMTH AFFECTS BROWN PRINT PAPER

Coaters and users of brown print paper, largely used by engineers and draughtsmen in making copies of drawings, should keep undeveloped sensitized paper at a temperature of not more than 35° to 40° F. in order to conserve its durability, according to a recent report from the Bureau of Chemistry on the Effect of Temperature and Time of Storage on the Physical Properties of Undeveloped Brown Print Paper.

WEATHER INSURANCE TAKES MANY FORMS

Insurance against unfavorable weather conditions is issued in many forms and is coming to be regarded as an important branch of the insurance business, according to the Weather Bureau. The oldest line of distinctly weather insurance in the United States is hail insurance on growing crops. It is written to a large extent in those States where there is considerable probability of destructive hail-storms and a large acreage of crops to insure. Kansas, North Dakota, and Iowa lead all States in the amount of hail insurance in force, representing among them more than one-half the total hail risks in this country. In both the Dakotas hail insurance is automatic, and premiums are collected by the State as taxes are collected. In Montana and Nebraska premiums are collected the same way, but insurance is optional. The total hail-insurance premiums in 1924 amounted to about \$40,000,000. Losses were very heavy, in some States over 230 per cent of the premiums paid in, but in other years they have been as low as 20 per cent.

Windstorm and tornado insurance is one of the most promising side lines of fire-insurance companies. Annual premiums amount now to more than \$30,000,000 in the United States. Since the tornado near Lorain, Ohio, in 1924, and others in Illinois and Indiana this year, the demand for insurance protection

against windstorm damage has more than doubled. Some banks and mortgage companies now require windstorm policies as well as fire policies before they make loans.

Rain insurance differs from other forms of weather insurance in that it does not cover property damage. It is especially designed for events or business enterprises dependent on public patronage which would be greatly reduced in bad weather. In this way a return on the investment is assured to the holder of the policy, which may cover as short a period as three hours—time enough for a ball game, a track meet, a fashion show, or an exhibit. Fair managers and retail stores advertising special sales frequently take out rain insurance for a single day. It has been found necessary to make different rates in some places for summer and winter, and for morning and afternoon.

Frost insurance for fruit trees is the alternative to the cost and labor of orchard heating. It seldom pays to go to the expense of both. General crop insurance has not yet become well established, but is practiced to some extent. Damage by lightning is usually included in fire insurance policies. Many freak policies are written, such as insurance against a cloudy sky during an eclipse of the sun, or insurance against lack of snow, taken out in two instances—once by a motion-picture company making snow scenes, and once by the promoters of winter sports in Minnesota.

Rates for all these forms of insurance are originally based on the records of the Weather Bureau. In connection with rain insurance the amounts and frequency of rainfall during many years in about 200 cities have been studied by statistical experts. Adjustments and payments of all kinds are made in conformity with the indisputable facts furnished by Weather Bureau data.

R. C. Shannon, Bureau of Entomology, will spend about two months in Europe this summer. He will study types of Diptera in the museums of Italy, France, and England. While in England he will study mosquitoes with Doctor Edwards, assistant in Diptera in the British Museum. During his stay in Europe he will also exchange American material for Old World forms.

Miss Bertha Lutz, daughter of Dr. Adolph Lutz, now with the Brazilian National Museum, recently spent a short time in the Bureau of Entomology and in the Division of Insects, U. S. National Museum, becoming acquainted with the various specialists and arranging for exchange of material.



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DEFENSE TEST DAY

The following notice has been issued by the office of the chief clerk:

"The President has authorized the War Department to hold on the Fourth of July, 1925, a second defense test of the same general character as the one of last year. The plans for the day contemplate, first, a patriotic demonstration for each locality, and, second, a muster of all of the military forces of the Army of the United States. The patriotic demonstrations in any locality will comprise such ceremonies, participated in by both the military and the civilian population generally, as may be arranged in accordance with the plans of State and local civilian committees.

"I am directed by the Acting Secretary to call the attention of the employees of the Department of Agriculture to this defense test, and to convey his request that in so far as may be practicable they will cooperate with local committees and participate in the patriotic demonstrations which may be locally arranged for."

WILL MAKE COTTON SURVEY

J. A. Evans, assistant chief, Office of Cooperative Extension Work, has been granted leave of absence to make a survey of the possibilities for cotton production in the Province of Lourenco Marques, Portuguese East Africa, for the government of this province. While abroad he will also visit other sections where cotton growing is being promoted.

Mr. Evans has been in close touch with developments in cotton production for a number of years. He has been associated with the department's extension work in cotton-growing States for some 20 years and has been a member of the Cotton Council of the department since its creation. This work and his duties

as a member of the cotton council and policy committee of the Association of Southern Agricultural Workers have required visits each season with other members of the councils to all cotton-growing sections of this country and study of the experimental work relating to cotton culture at the State and department experiment stations.

Mr. Evans sailed from New York City on June 20 for Lourenco Marques.

LORING H. GODDARD LEAVES

Loring H. Goddard gave up his position as senior agriculturist in the department on July 1, and will return to his farm at Washington C. H., Ohio. He was graduated from Ohio State University with the degree of C. E., and then connected with the Ohio Experiment Station for several years. In 1907 he was appointed as collaborator in the Bureau of Plant Industry, which position he held until 1914, when he was made agriculturist in charge. Mr. Goddard resigned from the department in 1918 to return to his farm in Ohio where he remained four years, returning to the department in 1922 as agriculturist in the States Relations Service. A year later he was made special assistant and in 1924 became senior agriculturalist, which position he held up to the time of leaving the department.

Before returning to his farm, Mr. Goddard plans to spend a month or more gathering trend and efficiency material that will be of value to him in his farming work.

"The handmaiden of all modern research is bibliography. Good research work can only be built upon the foundations laid by previous workers, and without the aid of bibliography the student is lost. He can not know where to begin his investigations and can but grope blindly, conscious only of what is immediately to hand and ignorant of all around him and all that has come before. Without bibliographical aid his research for references is inevitably imperfect and the results of his investigations will reflect these imperfections."—
Publishers' Circular of American Museum of Natural History.

Peach growers are watching with considerable interest the experiments being conducted with the use of the airplane for dusting peach trees, states the Bureau of Entomology. Over 100,000 trees are being used in this work, and the results from cutting "drops," etc., are encouraging. A quantity of fruit of several varieties will be cut at harvest to determine final results.

U. S. Meat Inspection Featured in Commercial Advertising

Urging that the public always insist on Federally inspected meats, a packing company in Ogden, Utah, is using its advertising space in local papers for educational articles on the subject of meat inspection. Three articles which have appeared thus far point out the thoroughness of inspection, the assurance that Federally inspected meat is clean and wholesome, and the high qualifications of inspectors for their important work. It is reported that reaction evidenced by the public to this unusual form of commercial advertising has been most favorable.

Each article is appropriately illustrated. Among the pictorial features are pictures representing an inspector, a facsimile of the inspection brand, a quarter of beef bearing the marks of inspection, and a picture of Uncle Sam as the authority back of the United States inspection brand.

Officials in charge of the department's meat-inspection work permit educational advertising of this kind, as they believe that a better knowledge among housewives of the service rendered by meat inspection will result in greater insistence on clean, wholesome meat-food products.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the Office of Personnel and Business Administration, the following employees of the department were retired during the month of May, 1925:

Mrs. Lucie E. Fairfax, an under clerk in the Office of Publications, was retired on account of total disability on May 3, 1925. She commenced service on May 1, 1888, as a laborer in the Seed Division, where she served for one year. Since April 30, 1890, she had served continuously in clerical capacities in various bureaus of the department. Up to the date of her retirement she had rendered a total of a little more than 36 years' service.

Mrs. Bennie H. Goldsmith, a junior clerk in the Office of Publications, was retired on account of total disability on May 29, 1925. She had served continuously in this department in the Office of Publications since October 5, 1906, a period of approximately 18½ years. Prior to coming to this department, she was employed for six months in the Government Printing Office. Her total governmental service at date of retirement amounted to 19 years.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is the value of the agricultural census that was taken during January, 1925, who asked that it be taken, and how will the information be used?

Answer. The quinquennial census of 1925 is of particular importance, because it is taken at a time when it is very important that farmers of this country should know just where they stand with respect to the production of crops and the numbers of livestock on hand. At the time of the previous census of agriculture in 1919 farm values and the prices of farm products were extremely high, due to the inflation of the war-time period. The present census of agriculture is taken at a time when most of the inflated values of farm property have been wiped out, and farmers are now on a more comparable basis with pre-war years. A great many shifts in crop and livestock production were brought about by high prices during the war-time period. It is essential to a proper understanding of the present status of agriculture that the extent of the readjustment toward pre-war acreages and holdings of livestock be more accurately known. While the department estimates crop production and holdings of livestock annually it is extremely difficult to keep up with radical changes which probably characterized the five-year period since 1919, and the department needs a complete enumeration as a new base in carrying on its annual estimates for the next five years. The Department of Agriculture, therefore, asked that the census be taken and cooperated with the Department of Commerce in obtaining the necessary appropriation.

Question. What is the temperature of the deep water at the bottom of the ocean or a large sea or lake?

In all bodies of water that annually, or even occasionally, are ice covered over any considerable portion of their extent, the temperature, from the greatest depth to within a few hundred meters (often much less) of the surface, is practically constant, and is that of maximum density. In the case of fresh-water lakes, such as the Great Lakes, this temperature is 4° C. The temperature at the bottom of the oceans, so far as has been measured, is about 1° C., varying one or two degrees above or below this value from place to place.

If no portion of the body of water freezes, however, nor cools to the tem-

perature of maximum density, as in the case of deep lakes in tropical or subtropical regions, the temperature of the deeper portions is constant and equal to that of the coldest portion of the surface wherever and whenever (barring rare and freakish extremes) the latter may occur. Thus, in the case of the Red Sea (the outlet of which to the ocean is only 82 meters deep) the minimum surface temperature of the coolest northern portion is about 21.5° C., and this is also the temperature of the water below the 700-meter level. Similarly, the surface temperature of Lake Tanganyika ranges from 26.3° C., at the end nearest the equator, to 23.3° at the opposite end, and at and beyond the 200-meter level the temperature is constant at about 23.2° C.

Question. Is there any ground for the supposed poisoning effect of eating fish and milk at the same meal?

Answer. There is nothing in the chemical composition of either fish or milk to support the claim that poisoning will occur when these foods are eaten at the same meal. While such instances have been heard of, it is believed by physicians that whatever digestive disturbance has taken place has been due to the state of health of the individual and not to the combination of fish and milk consumed.

Home Demonstration Agents go to Europe for Intensive Training

A group of nine home demonstration agents sailed for Europe June 17 for four months' intensive training in five specially planned courses of instruction conducted in three different countries of Europe—Denmark, France, and England. These courses of study have been planned to include training particularly applicable to the work of the agents, arrangements for the courses being made cooperatively by representatives of these countries who have studied extension work in the United States and by Ola Powell, Office of Cooperative Extension Work, who spent the greater part of two years in France assisting in the establishment of a system of home-demonstration work.

The subjects in which training will be given this summer include the making of gloves and other articles from skins and pelts of small animals, such as goats, sheep, and rabbits, in England, and another course will be given in France in the making of leather articles from calfskins and hides of other animals. A special course in food preservation has been arranged for the home-

(Continued on page 6)

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arizona.—John B. Duerson has been appointed assistant county agent in Maricopa County, which has recently approved a \$7,000-budget for extension work, the largest in the State.

Vermont.—Miss Flora J. Coutts is now acting as county club agent at large and Miss Eleanor Gamby has been appointed home demonstration agent for Orange County.

Washington.—Roy Larsen has resigned as county agent in Chelan County and A. R. Chase has been transferred from Grant County to fill his place, leaving the latter position as yet unfilled.

Wyoming.—O. N. Summers, of the Nebraska extension service, has been appointed poultry specialist to succeed W. H. McNees, who has resigned to enter commercial poultry work in Pennsylvania.

NEW DEVELOPMENTS

Deserting the ranks of conventional conference attendants, Indiana county extension agents and local leaders tried "experience meetings" instead at their recent annual professional assemblages in Camp Tecumseh and Bedford; that is, they practiced the things suggested by the men and women on their programs instead of listening to talks describing the practices. They assumed the rôles of various types of people found in the average farm community, under the direction of Prof. Ralph Felton, of Cornell University, New York, and organized a community-extension meeting, made a community program of extension work, and served on committees charged with responsibility for carrying out various undertakings.

They planned a community fair, with the guidance of A. B. Graham, Office of Cooperative Extension Work. With instruction from a representative of a phonograph company, they learned something of music appreciation and musical games useful in community gatherings. Then they resumed their own identities and, as extension workers and local leaders, wrote and submitted for criticism news items of the various occasions for the local newspaper put out for the session by T. R. Johnston, assistant county agent leader for Indiana extension service. Mimeographed news sheets were also prepared under Mr. Johnston's direction, for which the agents utilized syndicate cartoons and other material for arousing interest.

Over 200 extension workers and local leaders of extension projects were in attendance at the two meetings.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

STUDIES CONTROL OF GRAIN INSECTS

One phase of the work of the Division of Stored Product Insect Investigations of the Bureau of Entomology deals with the protection of grain and grain products from the ravages of insects, from the time the grain is harvested until the grain products reach the consumer.

More than 40 different insects commonly attack grain and grain products in this country, several of them being major tests causing losses to farmers, grain dealers, millers, warehousemen, and retail dealers amounting to millions of dollars annually.

Many of these insects begin their work of destruction in the field, laying their eggs in the ripening grain. After the grain is harvested it must be properly stored and treated with fumigants, if necessary. Many farmers, however, prefer to sell their grain immediately after harvest and so pass on to the grain dealer, elevator man, or miller the problem of insect control. Each group of men have their special problems. The miller, in addition to combating the insects that attack whole grain, has a continual fight with those insects that feed upon the ground products. Passing from the miller to the manufacturer and packer of breakfast foods, fancy flours, and cereal products of all kinds, another set of insect problems is encountered. Finally the warehousemen and retail dealers who store the finished product must exercise eternal vigilance in order to escape serious losses from insects.

The Division of Stored Product Insect Investigations concerns itself with all the varied insect problems of these several groups of men, the biologies of the more important of the insects concerned are studied, and methods for their control devised.

Recent investigations of this division on the biology of the Angoumois grain moth indicate that in the future it will be possible to predict in advance the seasons when the moth is likely to be seriously abundant. The preventive measures advocated may then be taken and the forewarned farmer can practically eliminate all chances of loss from one of the worst pests of red winter wheat in this country.

The effect on grain insects of heat, cold, electricity, vacuum, and other agencies are studied. Fumigants of all types are experimented with to determine their

relative efficiency and suitability for the various needs of the trade. Rooms for the treatment of grain and its products, suitable containers, and storage houses are designed. Methods of farm, elevator, and mill practice are studied with reference to the habits of the various insect pests revealed by studies of their biologies.

HOME DEMONSTRATION AGENTS GO TO EUROPE FOR INTENSIVE TRAINING

(Continued from page 5)

demonstration agents at Bristol University research station in England, and in Denmark standardization of farm home products for market and methods of co-operative marketing will be studied. Visits in Denmark have also been planned to special schools of various kinds of handicraft articles. In addition a course in French cookery and cheese making will be included in the agents' studies.

This is the third year that a group of home-demonstration agents has gone to Europe for study and travel. Much interest has been manifested in the trips because of the benefit to their work which has resulted from the training that members of former groups of agents have received. Selection of the limited number of home-demonstration agents who could be included in this year's classes was made by the State home-demonstration agents of the States represented—Alabama, Arkansas, Florida, Mississippi, and Texas—and a representative of the southern division of the Office of Cooperative Extension Work. In the group are Sarah E. King, Houston County, Ala.; Blanche Heard, Limestone County, Ala.; Flora A. Ferrill, Lee County, Ark.; Mary Alice Larche, Tallahatchie County, Miss.; Ida Morgan, Le-flore County, Miss.; Lois Godbey and Mosel Preston, Polk County, Fla.; Naut-fleet Grimes, Motley County, Tex.; and Lucile Cawood, a prospective home-demonstration agent, who has postponed acceptance of the position until her return from Europe. They go first to Denmark, where their schedule has been arranged by Miss Ulla Christensen, who recently spent several months studying home-demonstration work in the United States.

As Secretary Jardine was passing through Ogden, Utah, recently, the members of the Ogden Chamber of Commerce gave him a surprise breakfast. Many of the members of the association were former classmates of the Secretary.

Dr. A. G. Böving, Bureau of Entomology, left for Denmark June 9 on the S. S. *Lituanian*. During his sojourn in Europe he will study the larvae of beetles in the collections of the Copenhagen Museum and the British Museum, and certain other collections.

WITH EXTENSION FORCES

DIVERSIFIED CROPS GO TO MARKET

"If I should decide to give diversified farming a trial, how can I get money out of the new products, since there is no local market for anything but the one cash crop we have always grown?" asks the careful farmer in discussing changes in farming systems.

This question was answered by Darlington County, S. C., farmers last year in a series of cooperative car-lot marketing demonstrations, which resulted in the sale of over 60 cars of local farm products in addition to the general cash crop of the county—cotton. Included in the products sold in this way were 29 cars of hay, 8 cars of corn, 5 of hogs, 3 of peanuts, 2 each of poultry and oats and rye, several of sweet potatoes, and 5 of miscellaneous food, feed, and livestock items. Over 300 farm families participated in one or more of these demonstration shipments. One car of peanuts was loaded by 11 farmers, and hay from seven farms was shipped in another car.

Demonstrations in grading were included in the plan in many cases, since few of the farmers in the county were experienced in preparing these products for market.

As a result of the year's work, there is a marked increase of interest in growing livestock and feed crops, County Agent J. M. Napier reports, and a permanent cooperative car-lot shipping organization of farmers in the county is being perfected.

CARLOT MARKETING OF POULTRY

Steps in marketing a carlot of poultry were demonstrated in Clarke County, Ga., in April. The load was made up from small lots of poultry, chiefly hens, brought in by a number of farmers and, from local reports, seems to have been the first carload of poultry to be shipped from Clarke County.

A committee, appointed from the farmers participating, made all arrangements for the sale with the assistance of the county agent, J. W. Firor. The State bureau of markets was asked to send out requests for bids. These were received by the local committee by wire five days before the car was shipped. Loading the car attracted much attention, and many farmers who had nothing at the time to sell came with those who were shipping to watch the process. The sales totaled over 5,700 pounds.

ECONOMY STRESSED AT BUSINESS MEETING

(Continued from page 1)

there are less bonds outstanding upon which interest must be paid. Over thirty million of this decrease is due to the lower interest rates paid on our securities. These lower rates are the result of improved credit, secured by the orderly management of our fiscal affairs. Thirty million dollars a year is good pay for a sound policy. It shows how orderly management goes hand in hand with economy.

"* * * We are fast reaching the time when we can not look forward to appreciable reduction in the legitimate cost of government. This Nation is growing, and in the normal course of events we must face a gradual expansion of its legitimate business, but increasing resources and numbers will leave the burden on each of us diminished. Even greater watchfulness, greater care over our expenditures, must be exercised successfully to continue this campaign. The task is becoming more difficult, but the more difficult the task the greater is the reward of success. In this great business of the Government we are undoubtedly continuing activities which are no longer essential or productive. The undertaking of new projects or lines of effort made essential by changing conditions should be marked by the weeding out of those no longer essential. * * *

State Funds for State Responsibilities

"Unfortunately the Federal Government has strayed far afield from its legitimate business. It has trespassed upon fields where there should be no trespass. If we could confine our Federal expenditures to the legitimate obligations and functions of the Federal Government a material reduction would be apparent. But far more important than this would be its effect upon the fabric of our constitutional form of government, which tends to be gradually weakened and undermined by this encroachment. The cure for this is not in our hands. It lies with the people. It will come when they realize the necessity of State assumption of State responsibility. It will come when they realize that the laws under which the Federal Government hands out contributions to the States is placing upon them a double burden of taxation—Federal taxation in the first instance to raise the moneys which the Government donates to the States, and State taxation in the second instance to meet the extravagances of State expenditures which are tempted by the Federal donations. * * *

"Greater ultimate economy in Federal expenditures can sometimes be attained by larger annual outlays on some of our existing projects. In fact, greater ultimate economy can in some instances be attained by undertaking new projects. I do not advocate the withholding of additional outlays on projects essential to the best interests of the Government. But our present objective is the relief of the taxpayers of to-day, and any proposed increase of annual outlay on existing projects or any undertaking of new projects should be scrutinized with this objective in mind, and every doubt should be resolved in favor of the taxpayer of to-day who is carrying the burden of war taxes. * * *

"I would like you to give most careful consideration to the matter of personnel. On June 30, 1915, there were approximately 440,000 employees in the executive civil service. On June 30, 1924, the total number in the executive civil service was 554,986, an increase of nearly 115,000 in the nine years from 1915 to 1924. Of this increase, 46,000 was in the Postal Service. I am not unmindful of the fact that the annual percentage increase in the executive civil service for the two decades ending June 30, 1915, exceeded that for the following nine years. The comparison is 5.2 per cent for the former period as against 2.9 per cent for the latter. This, however, does not mean that we need give no attention to the personnel now in the public service. I do not advocate an undermanned public service. This would be false economy and disastrous in its results. I do, however, advocate and desire the closest supervision over your personnel requirements so that any surplusage may be prevented. * * *

Economy Demanded in Federal Service

"* * * The Chief Executive may preach economy, but unless the people in the service practice it the preaching is in vain. There are still reductions to be made. There are yet wastes to be eliminated. I expect you to prosecute a campaign of relentless economy to that end, not only in expenditures for 1926 but in the preparation of estimates for 1927. I am convinced that this way lies the welfare of the people of this country. Fidelity to our oaths of office admits of no other course. Wastrels, careless administrators of the Government's substance, are out of place in the Federal service. They will not be tolerated. * * *

"I wish also to commend to you the efforts of the coordinating agencies of the Chief Executive, including the va-

rious interdepartmental coordinating boards. These agencies are applying constructive coordination to the vast routine business of the Government. The many Federal business associations scattered throughout the country are also applying constructive effort and cooperation to the work devolving upon them in the field services outside of Washington. * * *

"I will now turn this meeting over to General Lord, the Director of the Bureau of the Budget. You have no better friend, no more faithful adviser in your efforts for efficient public service. His broad grasp of the needs and requirements of the Government, his patience in careful investigation, his sound judgment, and wise discretion have all been devoted to his country at a very great personal sacrifice. It would be difficult to estimate the help that he has given you and me and impossible to recompense him for the faithfulness with which he has successfully served the American people. He stands as an example of the honest, earnest, conscientious service which characterizes the government of our country. He will give you more in detail what has been done in the past and what we propose to do in the future."

(NOTE.—General Lord's address will be printed in part in the next issue of THE OFFICIAL RECORD.)

USE OF EXHIBITS DISCUSSED

The planning, collection of material, and staging of educational exhibits for fairs was discussed by H. W. Gilbertson, office of cooperative extension work, at a meeting of grange committees in Putnam County, Ohio, with County Agent J. W. Henceroth and D. S. Myer, supervisor of extension work in the northwest district of the State, on June 4. Illustrations were shown which demonstrated the marked effectiveness of exhibits which feature one idea only, such as hog-lot sanitation or kitchen conveniences, compared with those covering a number of subjects, as grains, fruits, vegetables, sewing, and similar matters.

Among the general suggestions for procedure were: Decide upon a definite idea to be presented; select the exhibit material only after considering space, location, time, and funds available, and competition of surrounding exhibits for attention and interest; make a simple drawing of space available, blocking in the principal features as an aid in studying the general appearance and appeal of the exhibit; plan for supervision of the exhibit, if necessary; arrange for publicity before, during, and after the exhibit; and after the exhibit is set up review it carefully to see that the labels and other explanatory material are sufficiently clear to be readily understood and to carry the message intended.

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HORTICULTURE

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 Moat, Florence. *Laundry work*. London, Longmans, Green, 1925. (The concise series of practical housecraft. 2.)

FOOD

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CHEMISTRY AND DRUGS

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- Lipskii, V. I. *Herbarium Horti botanici imperialis petropolitani (1823-1908)*. Ed. 2. Jurjev, K. Mattisen, 1908.
 Rolfe, R. T., and Rolfe, F. W. *The romance of the fungus world*. London, Chapman & Hall, 1925.
 Standley, P. C., and Calderón, Salvador. *Lista preliminar de las plantas de El Salvador*. San Salvador, Dutriz hermanos [192-].

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- Galpin, C. J. *Empty churches*. New York, Century co., 1925.
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 Port of New York authority. *Produce terminal requirements in the New York area*. New York, 1925.
 Port of New York authority. *Some facts about margins and costs in marketing fruits and vegetables in the Port of New York district*. New York, 1925.

BIOGRAPHY

- Leenhardt, Camille. *La vie de J.-F. Oberlin, 1740-1826*. Toulouse, Société d'édition de Toulouse, 1914.

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 Na. *Agronom. fronte* [weekly] no. 1- Jan. 1925- Moscow.
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- Magness, J. R. (Plant Industry). Ambrose Matson Burroughs. *Proceedings of the American Society of Horticultural Science*, vol. 21, p. 393. 1925.
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 MacDonald, Thomas H. (Public Roads). *Building a system of national roads through Federal aid*. *Good Roads*, vol. 68, pp. 111-115. April, 1925.
 MacDonald, Thomas H. (Public Roads). *Twenty years of road building progress in the United States*. *Texas Highway Bulletin*, vol. 5, pp. 12, 30-31. May, 1925.

EXPERIMENT STATION PUBLICATIONS

- The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of June 15-20, 1925. Copies of these publications may be obtained from the stations issuing them:
 Oak fungus in orchard trees. A. H. Hendrickson. (California Sta. Cir. 289, pp. 13, figs. 7. May, 1925.)
 Report of the director for the year ending October 31, 1924. W. L. Slaid, Jr., et al. (Connecticut Sta. Sta. Bul. 264, pp. 195-219, figs. 6. Jan., 1925.)
 Twenty-fourth report of the State Entomologist of Connecticut, 1924. W. E. Britton et al. (Connecticut Sta. Sta. Bul. 265, pp. 261-344, pls. 22, figs. 9. Mar., 1925.)
 Seed analyses, 1921 to 1924. C. M. King. (Iowa Sta. Bul. 226, pp. 291-311. Feb., 1925.)
 Iowa farmers test new oat varieties. H. D. Hughes and J. L. Robinson. (Iowa Sta. Bul. 227, pp. 313-342, figs. 14. Mar., 1925.)
 The use of fertilizers on Iowa soils. W. H. Stevenson and P. E. Brown. (Iowa Sta. Cir. 97, pp. 16, fig. 1. Mar., 1925.)
 The smut disease of onions. P. J. Anderson and A. V. Osmun. (Massachusetts Sta. Bul. 221, pp. 29, pls. 4. Dec., 1924.)
 The costs of marketing the apple crop of 1923. L. P. Jefferson. (Massachusetts Sta. Bul. 224, pp. 9. Mar., 1925.)
 Potato-breeding methods. F. A. Krantz. (Minnesota Sta. Tech. Bul. 25, pp. 32, figs. 5. Dec., 1924.)
 Economic aspects of creamery organization. J. D. Black and E. S. Guthrie. (Minnesota Sta. Tech. Bul. 26, pp. 111, figs. 25. Dec., 1924.)
 The relation of feed consumed to protein and energy retention. A. G. Hoad, L. A. Weaver, A. T. Edinger, and E. A. Trowbridge. (Missouri Sta. Research Bul. 73, pp. 42, figs. 29. Jan., 1925.)
 The alfalfa weevil in Nevada and its control by spraying. S. J. Snow. (Nevada Sta. Bul. 108, pp. 22, figs. 4. May, 1925.)
 Annual report of the board of control [Nevada Station] for the fiscal year ending June 30, 1924. S. B. Doten et al. pp. 21, figs. 2. *The Monthly Bulletin*. (Ohio Sta. Mo. Bul., vol. 10, No. 3-4, pp. 33-64, figs. 5. Mar.-Apr., 1925.)
 New pages in farm progress. Annual report of the director, 1923-1924. H. L. Russell, F. B. Morrison, and W. H. Ebling. (Wisconsin Sta. Bul. 373, pp. 99, figs. 40. Apr., 1925.)

CIVIL-SERVICE ANNOUNCEMENTS

Assistant chief accountant engineer, \$3,800; senior accountant, \$3,300; accountant, \$3,000 (electric utilities). Vacancies in the Department of Agriculture for assignment to duty with the Federal Power Commission, and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$5,000 a year for assistant chief accountant engineer, up to \$3,900 a year for senior accountant, and up to \$3,600 a year for accountant. All applicants for these positions must be qualified in public-utility accounting as applied to electric light and power utilities. Applicants should at once apply for forms 2118 and 2105, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 28.

Assistant marketing specialist (fruits and vegetables), \$2,400. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close July 25.

TOBACCO MARKETING—NEW FILM

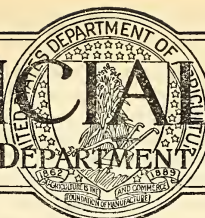
Cooperative marketing, as practiced by some 300,000 American tobacco farmers, is graphically set forth in a new two-reel motion picture, "Cooperative Marketing—Tobacco," just released by the department.

This film, which is a contribution from the Bureau of Agricultural Economics, outlines the methods followed by the cooperative associations of the "Bright" districts of Virginia and North Carolina, the "Burley" districts centering about Lexington, Ky., and the "Dark" districts of western Kentucky and Tennessee. The photography was made in Danville and Richmond, Va.; Norlina, N. C.; and Lexington and Hopkinsville, Ky.

Beginning with the delivery of the tobacco at the warehouse, the various steps taken by the several associations in the process of marketing their tobacco are shown in detail. Grading, redrying, "prizing," sampling, recooling, and shipping are among the many operations shown, which involve the actual handling of the crop, while other parts of the picture deal with office procedure as followed by the cooperative associations—the issuing of warehouse receipts, the use of such receipts as collateral in negotiating loans to finance the operations of the associations, the pooling of the members' tobacco according to grade, and the settlement with the members as the tobacco is sold.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

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No. 27

GENERAL LORD PRAISES FEDERAL ECONOMIES

Savings Effected Under Budget Will Leave Large Surplus at End of Year

Speaking before the members of the Business Organization of the Government on June 22, General Lord, director of the Bureau of the Budget, expressed satisfaction with the reductions in cost of Government made under four years of budget control, and at the same time urged still further economies. A comparison of the costs of Government for 1921, the last year free from budget control, with that for 1924, the last completed budget year, shows a reduction of more than two billions of dollars. As a result of these economies the Bureau of the Budget counts on ending the year with a surplus not less than \$200,000,000.

Two Per Cent Club Formed

General Lord went on to say that estimates of expenditure for the current year, made last November, exceeded the \$3,000,000,000 objective by about \$62,000,000. Announcement was made at that time of the formation of a Two Per Cent Club to eliminate this excess. Federal personnel and Federal agencies who guaranteed a 2 per cent reduction in their operating program would be entitled to membership and all were urged to join. Among the first to respond was the Bureau of Animal Industry of the Department of Agriculture. Doctor Mohler, chief of the bureau, asked each division leader to sign a card indicating a willingness to reduce his expenditures by 2 per cent. The card, which was for probationary membership in the club, read: "You may attain full membership when the results of your efforts show at the end of the year that your division has been successful in making the saving requested by the President." The di-

visions responded with 100 per cent enrollment.

"Whetted to keen endeavor by our achievements during the year just passing into history," said General Lord, "we eagerly and confidently challenge the year to come. The President has indicated that our expenditure next year, including debt reduction and excluding postal expenses, should not exceed \$3,375,000,000. Deducting from this total the amount estimated for retirement of the debt we have \$2,890,000,000, which is comparable with the familiar \$3,000,000,000 that for three years has tempted, tried, and tantalized us. If we hold expenditure next year within the maximum fixed by the President—and who will say we can not and who dares say we will not—a surplus will be created of not less than \$290,000,000, which with this year's expected surplus will warrant the President in recommending to Congress further relief for an over-taxed people. Such a recommendation will be fitting consummation of our efforts at retrenchment, and unanswerable demonstration of the success that has crowned our labors.

"There has been a great deal in the papers regarding prospective tax modification. March income-tax receipts were responsible for prophecies that with the return of Congress further tax relief would be afforded a waiting and expectant people. Whatever the revenue returns may be, from whatever source, no matter how generous and unexpectedly large, if Federal outgo marches shoulder to shoulder with Federal income, if Government expenditure breaks the tape nose for nose with Government receipts, all talk of lower taxes is idle and worse than idle. In all history there never was a race in which so many people had such vital, absorbing interest as the race that is now on to a finish between Federal receipts and expenditures. It is our job, acting under the personal direction of the President, to so hold expenditures back that receipts may win by a sufficient margin to guar-

(Continued on page 5)

FARMING AS A BUSINESS NEEDS MORE EFFICIENCY

Secretary Advocates Closer Study of Production and Marketing Problems

"The troubles of agriculture during the last five years in no small measure have grown out of the overexpansion of production during and immediately after the war," declared Secretary Jardine in his Fourth of July address at Mandan, N. Dak. "In response to high prices and the appeal for food, farming was made more intensive and crops were pushed out upon lands where risks are abnormally great. As a result the production of farm products was enormously increased. When the markets for these products became demoralized prices sharply declined. No group of farmers escaped. Some suffered more than others. Many of you here suffered doubly because at the time you also experienced severe crop failures.

Fit Production to Market Needs

"Since the distressful years following 1920 far-reaching readjustments have been made in our agriculture, but much still remains to be done. * * * As you well know, consumers will not eat unlimited quantities of wheat, corn, butter, and other products. Naturally if you flood them with more than they can consume, prices will fall. To illustrate this point I need but remind you of the rapid drop in the farm price of wheat within 18 months after the crash in 1920 from \$2.58 to 92 cents, of corn from \$1.85 to 41 cents per bushel, and of hogs from 19 cents to 6½ cents per pound.

"Fitting production to the needs of the market implies more than merely supplying products in suitable volume. The consumer is just as much interested in knowing that he can buy the quality of the product he desires as that he can ob-

tain it in suitable amounts. Farmers annually lose millions of dollars by placing on the market low-quality products which consumers will buy only at a discount. This is all the more unfortunate, because farmers themselves are in a position to stop much of this loss.

"Closely related to the problem of fitting production to the needs of the market is the other problem of efficiently organizing and managing the farm business. The efficient operation of a farm implies the most efficient use of land, labor, and capital. These factors must be combined in such a way as to reduce the cost of production and yield the farmer the maximum net returns for his efforts. This implies the proper size of farm unit, the correct choice of crops, the proper emphasis on the individual crops, the employment of the right size and type of machinery, the feeding of balanced rations and the like. Perhaps also there are acres so low in fertility that they can not be profitably farmed at present prices. In short the efficient farmer will strive to find the combination of factors which will result in the lowest production costs and the highest net profits.

"* * * Time will not permit me to develop fully the details which must be considered in the organization of the farm along the most effective lines, but I can not emphasize too strongly the need of putting more 'business' into farming. It is only in this way that the farmer can attain the greatest returns for his efforts with the least cost.

Huge Capital Invested in Agriculture

"During the last several decades, the capital invested in agriculture has grown to enormous sums. Between 1900 and 1920 the average value of land in the United States more than trebled and in some States it increased as much as twelve or thirteen times. Although the value of land has declined since 1920, farm land in general will probably not become much cheaper, except where it was greatly inflated in value. Our rich free lands are practically gone. The best land is already in cultivation. Our population is rapidly increasing and the growing demand for foodstuffs and raw materials will have a tendency to hold land values at relatively high levels.

"For that matter, not one of you would like to see the value of your land materially reduced in price. Many of you could not stay in the business if the price of your land dropped materially. Then if land values remain at high levels and if you are to be faced with relatively higher costs of operation, what have you as farmers done to increase the efficiency of your plants and how much more efficient are you to-day than

you were 20 years ago when land values were a third or a fourth of what they are to-day? This is a problem which concerns the farmer himself. He will have to solve it himself.

"There is still another thought that I would like to leave with you at this point. Some years your profits are good. In other years they are poor or, perhaps, even nothing. I do not know of a method whereby returns from farming can be made uniform year after year, but I do know that it is possible for farmers to lay aside in years of good profits reserves upon which they can draw in years that are not so good. I can not help but feel that too many farmers have reinvested their surplus earnings in high priced land when they should have kept at least a part of them in more liquid reserves upon which they could readily draw in times of depression. * * *

One-Crop System Dangerous

"In the one-crop system of farming there are disadvantages and even dangers, which you should fully recognize. Where sole dependence is placed upon one crop the profits for the year may be wiped out completely through the failure of that crop. Through continuous cropping, as you have experienced, the soil loses its fertility and the land becomes infested with weeds. Then, too, wheat alone does not provide continuous occupation for the farmer's time.

"For these reasons it is quite apparent that the wheat farmer can increase his net returns by growing other crops along with his wheat and by keeping some livestock. * * * Our work at the experiment stations and your own personal experience have shown that corn, when properly cultivated, is the one crop above all others that can weather unfavorable years. Your recent success in growing corn, alfalfa, and other kinds of forage crops points to changes that will have far reaching consequences in the farming of this region. In the production of flax, sheep, dairy products and wheat, you are affected by the tariff and you should so adjust your programs as to receive the full benefits of the tariff. * * *

"I can not emphasize too strongly, also, that every farm should produce more of the food it consumes. This will reduce the "out of the pocket" costs. Why should farmers buy vegetables, eggs, butter, and even canned milk when they can so well provide these articles themselves?

Farm Area Overexpanded

"* * * From time to time we have had periods when the production of farm products has been in excess of the needs of the market. This, in part, has

been due to the failure of farmers properly to regulate their acreages and, in part, to favorable seasons. But in no small measure it has also been due to the manner in which we have expanded our farm land area. Farmers, individually and collectively, have made some effort better to adjust their production to the needs of consumers, but no effective policy has been devised to avoid the tendency toward overexpansion of our farm land area. We have thrown open freely to settlement large bodies of land, without carefully considering the need for additional products or the possibility of farmers succeeding on these lands.

"Too frequently lands that were fit only for grazing have been plowed up and planted to crops with results that have been highly disastrous. I firmly believe that we should put to the most efficient use the land already under cultivation and wait for the time when we can sell for a profit the products now grown before launching into any great expansion of farm lands.

"The efficient marketing of farm products is another important part of the farm business. All of us have observed the widening spread between prices received by the producer and those paid by the consumer. These spreads are, no doubt, in a considerable measure due to increases in costs. I am convinced, however, that there is needless waste in our system of distribution and that there are ways of materially reducing the spread between producer and consumer. If this waste in distribution is to be eliminated, there must be vast improvement in our marketing methods. Many of the major marketing problems have grown out of the development of a commercial agriculture. In the days when the farmer produced for his local market he was more familiar with what the consumer needed and there were few middlemen between him and the buyer. To-day farming has become a highly specialized business and producer and consumer are usually widely apart. The marketing process has become very complex and there are now various functions between farmer and consumer that must be performed by others. After all, however, production and marketing are inseparable and the problems of marketing will be solved only if we consider them in relation to production practices. * * *

Cooperative Marketing a Possible Solution

"I am one of those who believe that cooperative marketing will be an important factor in the solution of many of our production and marketing problems. I do not by any means regard it as a 'cure all' for the troubles of the farmer, but it has real possibilities. I

(Continued on page 7)

GENERAL LORD PRAISES FEDERAL ECONOMIES

(Continued from page 1)

antee tax reduction. Further help for the deserving and patient taxpayer, in large measure, lies in your keeping—dependent upon your administrative ability and courageous, patriotic action.

The Impossible Accomplished

"Invariably, as we near the beginning of a new expenditure year, we face something of a protest against further attempt at reduction in national costs. To-day, after four years of relentless paring down of expenses, this protest is more pronounced than ever. There seems to be a general feeling that further reduction is impossible. It may be that certain activities have reached the lowest level of expenditure consonant with efficient operation. It may be that certain important activities will need increases in appropriations. But there's no 'may be' in the President's intention to still further reduce the cost of Government and at the same time increase Federal efficiency. These two are not incompatible. Constructive economy means that—nothing more, nothing less. It is important that we have this clearly in mind before we complete our 1926 plans and before we begin our 1926 operations. What you have done in the past four years should convince you of the utter weakness and futility of a plea that further reduction in costs is impossible. You have repeatedly accomplished the impossible, or what you yourselves pronounced impossible. We must obliterate that word 'impossible' from Federal lexicons. We have robbed it of its meaning. Some one has said that things move along so rapidly nowadays that people who say 'It can't be done' are interrupted by some one doing it.

General Lord then cited numerous instances of small economies. Among them was the case of a messenger in the Navy storeroom in Washington who saves several hundred dollars of the people's money by busying himself in his spare moments collecting from wastebaskets and other sources pins, paper clips, and pieces of pencils and other property that would otherwise be thrown away. Another economy is effected by an American consul in far-off Java, who rearranged his office lighting, thereby saving \$45.21 annually. A consul in the West Indies cut out one of his office lights, saving \$14 a year. The Director of the Veterans' Bureau, among other economy measures, reduced the expense of long-distance telephoning 94 per cent in two years. "Economy in small matters is fundamental," said General Lord. "If we can get the entire Federal per-

sonnel committed as a matter of habit and principle to the scrupulous use and care of little things, we can safely dismiss larger considerations from thought. Watchful care over greater interests follows economical administration of minor matters as inevitably as day follows night.

Large Saving in Office Equipment

"Our effort, however, is not confined to small savings. The Adjutant General of the Army needed a great deal of office equipment to carry out the provisions of the World War adjusted compensation act. In order to save public funds he combed Federal offices in Washington and neighboring cities for desks, tables, chairs, typewriters, and other supplies. He called upon other departments and bureaus of the Government for help. In a loyal spirit of co-operation they responded and assisted in effecting one of the finest examples of coordination on record. A saving of \$289,000 was effected. * * *

"Some of us have opportunity to save thousands of dollars and perhaps millions while others have opportunity only for modest savings. The obligation, however, is just the same; the recognition should be the same. He who saves a Government pencil from a sense of duty and in the interest of the taxpayer is performing as honorable service as he who saves his millions of dollars. Recognition of this is proving of great value by creating in the Government service an abhorrence of waste and a lively sentiment for constructive economy, as evidenced by the widely diversified examples of savings, ranging from a few dollars to millions, to which I have called your attention.

"* * * It is vitally important that in all our activities as public servants we keep constantly and clearly in mind that this money we spend is not our money, but the people's money, contributed for the maintenance of the Government. In most cases it represents sacrifice and self-denial of people whose conduct under Federal tax levies, before the war and since, in the words of the President, has been heroic. Every Federal penny and every Federal dollar, every Federal minute and every Federal hour, every Federal article of property, be it thumb tack or that great *Leviathan*, must be regarded as a sacred trust. Responsibility and accountability for their honest and wise administration we can not evade. They rightly demand and deserve greater care and more scrupulous conservation than our personal belongings.

Economy Saves the People

"This constant plea for economy gets tiresome and wearisome, I know, but

President Coolidge with a word has lifted it out of the commonplace of sordid saving and has raised our campaign of retrenchment to a higher plane of endeavor. He said, 'I favor the policy of economy not because I wish to save money but because I wish to save people.' To you who have labored long and assiduously to reduce your Federal expenditure; to you who may have become wearied at the long-continued demand upon your resourcefulness in order to properly carry on your allotted tasks; to you who may have become restive and perhaps resentful under the restrictions imposed by a continuing retrenchment policy, there has been given a new incentive and there has been sounded a new call to duty. To save people! To so strive that their lives may be richer and ampler; that their daily load may be lightened; that their daily routine may be brightened; that modest homes may have additional comforts; that the smile of prosperity may drive away the frown of penury; that opportunity may wait upon endeavor; that pervading contentment may bless a happy and fortunate people with faith and trust in a Government that has labored loyally in its behalf. This is our high privilege. This is our inescapable duty. * * *"

The department has recently submitted to the Director of the Bureau of the Budget a statement of reorganization and economies effected in all its bureaus during the year 1925. It is expected that this will be contained in the annual report of the Bureau of the Budget, which will be available soon.

CHINESE AGRICULTURE DESCRIBED

J. Lossing Buck, professor of agricultural economics at the College of Agriculture and Forestry, University of Nanking, China, discussed the agriculture of China before members of the Bureau of Agricultural Economics last week. The lecture was illustrated with numerous lantern slides made during his trip to central north China.

Professor Buck explained that although the Chinese put a great deal more labor per acre on their land, they do not as a rule harvest larger crops than are usual in this country. Primitive methods of harvesting as shown in the pictures indicate that Chinese methods are not only laborious but wasteful. Prevailing impressions of intensive agriculture in China are largely accounted for by the fact that market gardeners near the cities and towns often get two and sometimes three crops from the same land in the same season.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

Amendment to the Fiscal Regulations

Memorandum No. 541.—Paragraphs 33 (c), (f), and (h)—2 of the fiscal regulations of the department are amended as follows:

33 (c). Porter fees on trains or coastwise, river or lake steamers, not to exceed 25 cents for each car, or for each 24 hours or fraction thereof, where not prohibited by State laws.¹

33 (f). The checking and portage of baggage at depots, hotels (where not prohibited by State laws¹), or docks upon arrival and departure, charges for checking not in excess of prevailing rates, and portage for each piece not to exceed 25 cents at docks and 10 cents in any other case.

33 (h)—2. Waiter fees not to exceed 30 cents per day where not prohibited by State laws.¹

The above amendments eliminate Arkansas and Tennessee from the list of States in which antippling laws are in effect. In Arkansas the law prohibiting the payment of tips was repealed on March 28, 1925; in Tennessee, on April 16, 1925.

WATER-SUPPLY INVESTIGATIONS MADE

Dr. H. C. Frankenfield, in charge of the river and flood division of the Weather Bureau, recently visited the watershed of the Kentucky River, particularly the upper portion of the river in the mountains of southeastern Kentucky, in order to investigate the possibility of organizing a more intensive system of securing rainfall data along the headwaters of the mountain streams of Kentucky and West Virginia. Information of this character is of vital importance, especially during seasons of low water, in connection with the proper and efficient operation of the great system of locks and dams on the Ohio River for the benefit of navigation. Without this information the operation of the locks and dams would be attended with great difficulty and at times by actual loss and damage. While the present service performed by the Weather Bureau is said

¹The State of Mississippi has an "antippling law."

to be very efficient and valuable, yet it is not sufficiently complete for the best operation, and it is hoped that means will be found to place the work on a proper basis.

The same rainfall measurements will also be of great value to the hydroelectric developments of those regions, both to those already in operation and to those in contemplation. Obviously, it is useless to establish hydroelectric plants where the water supply will be insufficient. The companies look for data on the subject to the Weather Bureau, and thus far it has not been able to meet the demands as fully as is desired. Consequently the establishment of a more intensive system of rainfall measurement will be just as valuable to the hydroelectric as to the navigation interests.

HAY INSPECTOR FOR THE SOUTHEAST

The hay, feed, and seed division of the Bureau of Agricultural Economics is establishing a new division for the supervision of hay inspection in the Southeast, including the States of Kentucky, Tennessee, Georgia, Florida, Alabama, Mississippi, and Louisiana. Headquarters for the division will be established temporarily in the office of the Chamber of Commerce, 2015 Fifth Avenue, Birmingham, Ala.

The hay-inspection work has developed quite rapidly in the South in the last few months, and the need for a supervising inspector has become quite pressing. There has been a local inspector at Birmingham, employed in cooperation with the Bureau of Agricultural Economics and the Birmingham Grain Exchange, for over a year, and arrangements are now under way for establishing shipping point inspection throughout the Johnson grass producing territory of Alabama.

The United States standardization committee has approved the correlation of the American wool grades with the "average Bradford qualities" representing British grades. Mr. Willingmyre, of the Bureau of Agricultural Economics, who is chairman of the committee; Marland Hobbs, representing American manufacturers; and Warren E. Emley, of the Department of Commerce, will take the sets to Bradford, England, in September for the purpose of securing the approval of the Bradford Wool Federation. It is expected to promulgate the American grades on both a numerical and nomenclature basis when the committee returns from Europe in the autumn.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is there a possibility of securing the remission of the fee which is charged for the visé on passports provided one is a Government employee on official duties?

Answer. The Passport Division of the State Department states that if the official is traveling in a country which requires passports to be viséed, and has secured merely the ordinary passport which any citizen may get on proper application, he will have to pay the fee customarily charged, and there is no established procedure whereby its remission or omission can be secured. On the other hand, an official of the department, intending to travel abroad on official business, may make application for, and obtain, an official passport; such a passport does not need to be viséed.

Question. What is the difference between condensed and evaporated milk?

Answer. Both products are prepared by evaporation of a part of the water from the milk, which concentrates the solids of the milk. Both products are really condensed, but the one which the trade calls condensed milk is preserved by adding sugar to the milk before evaporating, while the term evaporated milk is applied to the product made by evaporating a part of the water and preserving by heating after it is in the final container.

Question. What is the most reliable method for the home canning of nonacid vegetables?

Answer. Asparagus, string beans, corn, spinach, and the other nonacid vegetables, the department believes, should be processed in steam under pressure at temperatures higher than can be obtained in a water bath. The times and temperatures vary from 40 minutes at 10 pounds pressure (240° F.) for quart glass jars of asparagus to 80 minutes at 15 pounds pressure (250° F.) for corn in the same size containers, according to the time-tables for home canning given in Miscellaneous Circular 24. The steam pressure canner is therefore recommended for the processing of all nonacid vegetables.

A new U. S. D. A. club has just been organized at Omaha, Nebr. Further details will be published later.

OUR MEAT INSPECTION IS WORLD RECOGNIZED

Doctor Mohler Speaks to Inspectors and Officials at Biennial Conference

"The Meat Inspection Service is a most important division of the Bureau of Animal Industry," said Dr. John R. Mohler, chief of that bureau, addressing the biennial conference of the Federal Meat Inspection Service held at Chicago during the last week in June. Approximately 150 employees of the bureau, including the inspectors in charge at the most important stations and the administrative officials from Washington, attended the meeting.

Result of Twenty Years of Development

"To you inspectors in charge and your assistants," continued Doctor Mohler, "I wish to say that the bureau regards you as the real forces behind the efficient system of meat inspection that has been built up and established in the United States. We in Washington may act as a balance wheel in an administrative way in the forward movement of inspection practices, but you field members largely represent the energy and effectiveness of this great work. The bureau officials in Washington give full credit to you members who vision the meat inspection in its true purpose, for through this vision with its accompaniment of progressiveness and devotion to service you have largely carried the meat inspection through the trying period of development from the year 1906 to the present time.

"Progress can only be an onward movement, and you have helped build for yourselves a memorial in the development of the present efficient and world-recognized form of Federal meat inspection. You have had your part in making it a service that stands alone among the meat-inspection systems of the world. You have helped make it a service of incalculable value to the American people as a hygienic and sanitary factor. Last year you and your forces, despite reduced numbers of employees, inspected a total of nearly 80,000,000 animals and their carcasses and approximately 20,000,000 inspection pounds of prepared meat and products. You dealt with more than 40 different diseases or conditions requiring condemnation of carcasses or parts. Through the application and administration of

strict principles of economy and in creditable keeping with the wishes of the President, I am pleased to say to you that the cost to the American public as a safeguard to public health, as a means of selling our surplus meats to foreign countries, and as a source of information to farmers concerning the health of their stock, was less than 6 cents for each animal slaughtered."

Service Prepared for Emergencies

Doctor Mohler further stated that the Meat Inspection Service gives excellent training in discipline and application to duty through the opportunities afforded for close supervision of the work of subordinates, with the result that it has always been ready for action in cases of emergency. He cited the able work done recently in the arduous campaign to free the United States once more of the foot-and-mouth disease. Of the bureau's forces engaged in the fight against the plague in California and Texas about 70 per cent were recruited from meat inspection and stockyards stations. He also commended the workers who conducted the campaign during the early part of this year against the new poultry disease, European fowl pest. Here again inspectors in charge of meat inspection and stockyards projects were called upon to apply their abilities as veterinarians and administrators to stamp out the disease which had assumed alarming proportions. In a few weeks their efforts had checked the spread of the disease and later caused its subsidence and total eradication.

"There is a growing need in the bureau for competent, active, representative inspectors to fill places of responsibility, and we must depend largely upon inspectors in charge to select and train employees for such posts," said Doctor Mohler. "Encouragement should be given to young men entering the service to shape their careers in the bureau to fill such positions. The bureau should be informed when such trainees in your opinion are qualified for becoming supervisors or taking charge of stations or filling other responsible positions. * * *

Field Employees Not Yet Classified

"I will avail myself of this opportunity to repeat that there has been no legal classification of field employees, the classification act being applicable only to the District of Columbia. This still seems to be misunderstood by some. By Executive order, positions and salaries of field members have been adjusted, but action by Congress is necessary to place such adjustment, or any part of it, under

the classification act. It is confidently expected this will be done. It is somewhat of a question whether the deferred action in legal classification has not been an actual advantage to field employees at large, for had the classification act extended to the field the promotions already received by large numbers of veterinarians and lay inspectors would have been limited to \$60 or \$100, or the next salary step in the grade in which allocated. Furthermore, there is not now and probably will not be under classification any automatic promotions based solely upon length of service. In cases of selections for involuntary separations on account of reduction of force, length of service may be given credit weight, but in promotions it is not of primary importance except between employees of the same efficiency rating. * * *

"In closing I wish to repeat that I appreciate the businesslike and sensible way in which your duties are performed. The reputation of the bureau is largely what employees in the field stations make it. * * * I was impressed by a statement made by Secretary Jardine soon after his induction into office when he said to me that he felt quite well acquainted with the Bureau of Animal Industry through the work its members were doing in Kansas and other mid-west States, even designating some members by name and remarking they were good fighters in their work. The bureau's field forces are known the country over as being hard working, earnest, and efficient, and it is hoped their work will always so distinguish them."

Other Members Give Talks

Several other officials and inspectors attending the conference spoke on the various aspects of meat inspection work. Each talk was followed by an open discussion on that particular feature of the service.

The Bureau of Animal Industry feels that a great deal of benefit is derived from these biennial conferences through the exchange of experiences and opinions on matters of common interest and of vital importance to the service. Also the practical instruction gained by the inspectors in the visits made to the official establishments of the station where the conference is held acquaints them with improved inspection procedures.

Dr. E. Probst, professor of engineering at the Technische Hochschule in Karlsruhe, Baden, Germany, was a recent visitor in the Bureau of Public Roads. Doctor Probst is visiting the United States to inspect American road work.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

RECORD DAIRY PRODUCTION SHOWN

A new record in volume of dairy production was established in the United States last year, according to figures released by the department, which places production of creamery butter at 1,356,000,000 pounds compared with 1,252,000,000 pounds in 1923. Cheese production is given as 413,940,000 pounds compared with 394,697,000 pounds the preceding year; condensed and evaporated milk as 1,700,548,000 pounds compared with 1,774,881,000 pounds, and ice cream as 285,550,000 gallons compared with 294,900,000 gallons in 1923.

VIOLATES FEDERAL WAREHOUSE ACT

The recent conviction of a cotton warehouseman at Sylvester, Ga., for violating the Federal warehouse act, gives assurance to farmers and others who store products in Government licensed warehouses that the provisions of the act are strictly enforced, says the department. The warehouseman was convicted of the offense of issuing receipts bearing the same terms and conditions as required under the law, but after his license had expired on July 31, 1923. It was shown in the trial that despite warnings the warehouseman had continued to issue the same form of receipt, striking the word "bonded" from some of the receipts and failing to do so from others. In all about 529 receipts which represented the warehouseman as licensed by the Secretary of Agriculture were issued after expiration of the license.

SURVEY BRAZILIAN COTTON INDUSTRY

Future expansion of cotton production in Brazil is largely dependent upon the prospect of profit from cotton in competition with other crops, notably coffee and sugar, according to a survey of the Brazilian cotton industry just completed by the department. Considerable interest has recently been manifested in the possibility of Brazil becoming an important competitor of the United States in the world cotton market. There is not likely to be any great expansion in the area devoted to cotton in Brazil for the next 10 or 15 years, however, unless conditions change to such an extent as to make the growing of coffee and sugar cane unprofitable.

ITALIAN WHEAT CROP LARGE

Wheat production in Italy, forecast at 224,134,000 bushels this year, is nearly as large as the bumper harvest of 1923, and more than 30 per cent above 1924 production, according to cable advices to the department from the International Institute of Agriculture at Rome.

STANDARDS FOR FRUIT PRODUCTS

A public hearing on the proper definitions and standards for jellies, jams, preserves, and other fruit products will be held by the joint committee on definitions and standards at the Bureau of Chemistry, Washington, D. C., at 10 a. m. Wednesday, July 15, 1925.

WITH EXTENSION FORCES

"COLLEGE OF THE AIR"

After two years' experience in a new departure for extension activities—dissemination of systematic instruction by radio broadcasting—Kansas State Agricultural College finds that those who listen in on its programs prefer educational rather than entertaining programs. This conclusion is reached from replies received to questionnaires recently sent out by the extension division of that college. Of the 123 replies received, 118 were from persons who desire educational programs. Only five expressed preference for entertainment.

Ninety-four of the 123 radio listeners in like the type of program which offers two 15-minute talks, while 24 prefer a program of four 7-minute talks. The listeners are evenly divided on the matter of whether the programs should be presented by the authors of the papers or by trained readers, each method receiving 59 votes. Thirty-eight prefer noonday programs and 68 voted for evening programs.

After some experience in intermittent broadcasting, Kansas State Agricultural College began late in 1923 to work on plans which resulted in the "College of the Air," a systematic course of instruction by radio which opened in February, 1924, and continued for 10 weeks. Series of lectures were prepared on agricultural, engineering, and home economics subjects. The instructors were asked to design each course so that it should be more or less theoretical with the primary object of improving the fundamental information of the listener.

A catalogue which briefly described the courses and gave the schedule of lec-

tures was sent out with an enrollment card on which each course was listed. Persons who enrolled received a printed copy of each lecture in their course or courses immediately after it was broadcast and, at the close of the series, examination questions were sent to them. Certificates were awarded students who successfully passed the examination. No charge was made for this service in Kansas, but there was a nominal charge of 50 cents a subject to students enrolling from other States.

The total registration of 967 persons for this first session represented 39 States and Canada. Of this number, 311 individuals took examinations, about half of them in more than one subject. The correspondence received by the extension service indicated plainly that for every person registered there were many others not registered who listened in for part or all of various courses.

Encouraged by the enthusiastic indorsement of the first course, preparation of a more extensive one to continue 32 weeks was begun. The opening lectures were given September 15, 1924, and the course ended April 24, 1925. Thirty States, Canada, and Mexico were represented in the students enrolled. There were 3,571 registrations in the various farm enterprise courses, many of the students signing for several subjects. Poultry led with 855 enrolled, animal husbandry was a close second with 842 names, followed by crops with 746 names, dairy with 705, and horticulture with 523. Enrollment for home economics subjects included 518 in foods, 516 in home management, 472 in clothing, and 429 in home nursing. Agricultural engineering courses interested 1,132 students. There were 4,639 registrations in general science subjects.

Station KSAC has broadcast during the year, in addition to the regular "College of the Air," a "Question Box" from 12.35 to 1.05 p. m., when answers to questions addressed to the station were answered; a housewives' program from 9.55 to 10.25 a. m., which included discussions of current events of interest to farm women, timely housekeeping hints, and similar matters; and a rural-school program, 9 to 9.20 a. m., consisting of school songs, "setting-up" exercises, and five-minute talks on subjects of interest to rural-school students.

"I am convinced from our experience," states Director H. Umberger, of the Kansas extension service, "that those who are listening-in on our station do so because they expect to obtain helpful information. It is our purpose to identify our station with that kind of material."

BRIEF REVIEWS OF NEW BULLETINS

Fattening Steers on Velvet Beans. By S. W. Grenc, assistant animal husbandman, and Arthur T. Semple, associate animal husbandman, Animal Husbandry Division, Bureau of Animal Industry. Pp. 27, figs. 8. June, 1925. (Department Bulletin 1333.) Price, 10 cents.

Velvet beans were first considered valuable for cattle feed chiefly because the cattle would eat them from the vines in the field throughout the winter, even picking them off the ground and nosing them out when they were trampled in the mud. The conclusions drawn from the tests reported in this bulletin indicate that velvet beans and corn silage produce satisfactory gains for fattening steers. The ration is an economical one in regions in which the beans are grown. The dry beans are more economical than soaked whole beans where the labor cost of soaking is counted. Grinding the beans does not pay. Two pounds of velvet beans are practically equal to 1 pound of cottonseed meal for producing gain in fattening steers, and there is considerable saving in amount of roughage required.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 51. Index Number. Pp. 685. Price, 10 cents.
Vol. 52, No. 6. April Abstract Number. Pp. 501-600. June 18, 1925. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 217. May, 1925. Pp. 43-50. June, 1925. Price, 5 cents.

Soil Survey of McHenry County, North Dakota. By E. W. Nobel, of the U. S. Department of Agriculture, and H. L. Walster, Hutzler Metzger, Spencer, Buxton, and M. F. Peightal, of the North Dakota Agricultural Experiment Station. Pp. 45, pls. 6, fig. 1, map. (From F. O. Soils, 1921.) Price, 25c.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of June 22-27, 1925. Copies of these publications may be obtained from the stations issuing them:

Phylloxera resistant vineyards. L. O. Bonnet. (California Sta. Circ. 288, pp. 24, figs. 14. May, 1925.)

Successful threshing ring management. E. Rachenstein and C. A. Bonnen. (Illinois Sta. Bul. 267, pp. 373-403, figs. 2. May, 1925.)

Cattle feeding.—Winter steer feeding 1923-24. J. H. Skinner and F. G. King. (Indiana Sta. Bul. 291, pp. 23, fig. 1. Feb., 1925.)

Honey: Its use in the home. R. Jordan. (Indiana Sta. Circ. 121, pp. 12, figs. 3. Apr., 1925.)

The oriental fruit worm. B. A. Porter. (Indiana Sta. Circ. 122, pp. 8 figs. 5. May, 1925.)

Report of Moses Fell Arred, Bedford, Indiana, June 1925. H. J. Reed and E. W. Moore. (Indiana Sta. Circ. 123, pp. 24, figs. 19. June, 1925.)

Air-cooled storage for apples. R. E. Marshall. (Michigan Sta. Spec. Bul. 146, pp. 54, figs. 32. Apr., 1925.)

Cherry-les. spot? Residual effects and control. W. C. Dutton and H. M. Wells. (Michigan Sta. Spec. Bul. 147, pp. 15, fig. 1. May, 1925.)

Fowl plague—its cause, symptoms, and control. F. R. Beaudette. (New Jersey Sta. Hints to Poultrymen, vol. 13, No. 8, pp. 4. May, 1925.)

Standard methods of feeding laying stock. F. H. Clickner. (New Jersey Sta. Hints to Poultrymen, vol. 13, No. 9, pp. 4, fig. 1. June, 1925.)

Inheritance of characters in sheep. A. E. Darlow. (Oklahoma Sta. Bul. 153, pp. 15.)

Cotton variety tests in Oklahoma. G. Briggs. (Oklahoma Sta. Bul. 154, pp. 12.)

The results of some fertility experiments on Oklahoma soils. H. F. Murphy. (Oklahoma Sta. Bul. 155, pp. 34, fig. 1.)

Sheep—Care and management. A. E. Darlow. (Oklahoma Sta. Circ. 58, pp. 8 fig. 1.)

Inspection of fertilizers. J. B. Smith and W. L. Adams. (Rhode Island Sta. Ann. Fert. Circ., pp. 12. Oct., 1924.)

Inspection of feeds. J. B. Smith and W. L. Adams. (Rhode Island Sta. Ann. Feed Circ., pp. 12. Apr., 1925.)

Effect of cropping upon the active potash of the soil. G. S. Fraps. (Texas Sta. Bul. 325, pp. 18, fig. 1. Sept., 1924.)

Thirty-fifth annual report [of the Texas Agricultural Experiment Station], 1922. R. Youngblood, pp. 15.

CIVIL-SERVICE ANNOUNCEMENTS

Associate entomologist, \$3,000—\$3,600; assistant entomologist, \$2,400—\$3,000. Vacancies in the Bureau of Entomology, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$3,600 a year for associate entomologist, and up to \$3,000 a year for assistant entomologist. Applicants should at once apply for Forms 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 28, 1925.

Associate chemist, \$3,000; assistant chemist, \$2,400. Vacancies in the Bureau of Chemistry, Washington, D. C., and in positions requiring similar qualifications throughout the United States at these or higher or lower salaries, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$3,600 a year for associate chemist, and up to \$3,000 a year for assistant chemist. Applicants should at once apply for Forms 2118 and 2376, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close July 28, 1925.

FARMING AS A BUSINESS
NEEDS MORE EFFICIENCY

(Continued from page 2)

wonder if you fully appreciate the extent to which cooperative marketing activities in this country have been developed. The first farmers' cooperative in this country was organized shortly before the Civil War. To-day there are over twelve thousand farmers' cooperative organizations, with a membership of about two and one-half million farmers and doing an annual business of approximately two and a half billion dollars. While this development is remarkable, there is nothing mysterious about it. It is merely common sense applied to the marketing problems of the farmer. At the present time, I am more interested in the question of making these farmers' cooperative organizations highly efficient than I am in organizing new associations. For, after all, the success of the cooperative movement will depend very

much upon the success of the organizations already established. * * *

"The farm is a business but it is more—it is a home. We are interested in better financial returns for the farmer only as that means better living. We want men and women to stay on the farm, not merely because they have been able to make a living there but because they have been profoundly satisfied with a farm life. We must have good rural schools, good rural churches, good roads, wholesome recreation and pleasure if farm life is to prove attractive in the highest degree.

"My efforts will be directed to help bring about an efficient, stable, and profitable agriculture which will provide a standard of living which is in accord with American ideals. To this end I solicit your wholehearted cooperation. A firmly established, enlightened, and prosperous land-owning population is not only a great national asset but it is the safest balance wheel in our civilization."

TELEPHONE SERVICE

The following notice relating to receipts from telephone pay stations has been received from the office of the chief coordinator, Bureau of the Budget:

Agreement has been reached with the Chesapeake & Potomac Telephone Co. for the payment to the Government of a percentage of the receipts from telephone pay stations installed in Federal buildings in Washington.

To simplify the making of these payments, the telephone company requested that some one Government official be designated as the recipient of the commissions for all Government establishments, and the chief clerk of the Treasury Department has been so designated.

In the agreement the following points were settled and are published for the information of all departments and establishments:

(1) That the type of booth to be installed shall be subject to agreement between the telephone company and the custodian of the building concerned.

(2) That standard public telephone signs may be placed on these booths by the telephone company, but that projecting or special signs will be placed only with the consent of the custodians of buildings.

(3) That the company may discontinue any coin box public telephone where for a period of six months the contents of such box is less than an average of \$6.25 per month.

The payment of commissions will commence on July 1, 1925, and the details thereof, including the percentages to be collected, will be handled for the Government by the chief clerk of the Treasury Department, who will transmit the funds received to the disbursing clerk of that department for deposit in the Treasury to the credit of the fund "Miscellaneous receipts."

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Biersch, F. Handbook of agriculture, with special reference to the requirements of South Africa. Cape Town, J. C. Juta, 1906. *Propos de paysans*, v. 1-3. Balismon, Jean-Pierre, 1921-23.
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Jacobson, C. A. A pronouncing chemical formula spellier and contest guide. Baltimore, Williams and Wilkins, 1925.
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Guercio, Giacomo del. Nuova contribuzione allo studio della schizocora del melo e del suo nemico endoparassita *Apelinus mali*. Firenze, Istituto agricolo coloniale italiano, 1925.
La Rue, Adolphe de. Les animaux nuisibles, leur destruction—leurs moeurs. 7. éd. Paris, Firmin-Didot, 1924.
Lutz, F. E., and Watson, P. E. Our common butterflies. 4th ed. New York, American museum press, 1923. (American museum of natural history. Guide leaflet series, no. 38.)

PATHOLOGY

Foerster, Georg. Über zwei sarkomfälle beim reh nebst bemerkungen zur vergleichenden pathologie der sarkome bei tieren. Berlin, T. Neumann, 1921. Inaug.-diss.
Günther, F. W. Morphologisches, kulturelles und pathogenes verhalten eines in kadaverfett und kernseife gefundenen tetanusähnlichen stäbchens. Berlin, 1922. Inaug.-diss.
Møllgaard, Holger. Chemotherapy of tuberculosis. Kjøbenhavn, A. Busck, 1924.

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Bunting, R. H., and Dade, H. A. Gold Coast plant diseases. London, Waterlou & Sons, 1924.
Dixon, H. H. The transpiration stream. London, University of London press, 1924.
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Talanov, V. V., ed. Plant breeding and seed growing in U. S. S. R. during the last decade 1914-1923. Moskva, "Novaja Be-revnia," 1924. Russian.
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International labor office. Geneva. Engineers and chemists. Status and employment in industry. Geneva, 1924. (Studies and re-ports. Series L (Professional workers) no. 1)
Wright, William, and A. J. Penty. Agricul-ture and the unemployed. London, Labour publishing company, 1925.

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Benson, A. C. (Forest Service). Cutting the full woods run to dimension. Wood Work-ing Industries, June, 1925.
Brunt, E. M. (Forest Service). A compre-hensive plan for the marketing and utiliza-tion of the remaining stand of chestnut necessitated by the chestnut blight situa-tion. N. C. Geological and Economic Sur-vey, Economic Paper No. 56, 1925, pp. 15-23.
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Clapp, E. H. (Forest Service). Does re-search offer a reward to the forester? Cor-nell Forester, 1925.
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Fiorelli, V. H. (Plant Industry). Biannual cropping of wheat hybrids. Journal of the American Society of Agronomy, vol. 17, pp. 354-356. June, 1925.
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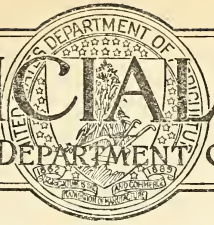
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Leonard, L. T. and S. H. Newcomer (Plant Industry). The effect of nodule-formation and seed production of growing soy beans on soil treated with sulfur dioxide. Journal of the American Society of Agronomy, vol. 17, pp. 309-312, June, 1925.
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CROPS AND AREAS IN ALGERIA

Wheat production in Algeria is fore-cast at 32,775,000 bushels, compared with 17,355,000 bushels in 1924 and 36,394,000 bushels in 1923, according to cable ad-vice to the department from the Inter-national Institute of Agriculture at Rome. The barley crop in Algeria is forecast at 42,117,000 bushels, against 20,684,000 bushels last year and 46,916,000 bushels in 1923; oats at 12,883,000 bushels, compared with 7,972,000 bushels in 1924 and 19,249,000 bushels in 1923.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JULY 15, 1925

No. 28

ADJUSTED PRODUCTION TO REDUCE SURPLUSES

In Talk at Ames, Iowa, Secretary Jardine Suggests Ways of At- tack on Farm Problems

The last scheduled address of Secretary Jardine on his trip through the West was delivered at Ames, Iowa, on July 10, when he directed attention to a number of the important problems confronting the agriculture of the country, reserving special comment on conditions in Iowa and the Middle West. He spoke of the gradual improvement in the agricultural situation, saying that general conditions from the farmer's viewpoint were the best since the spring of 1920 and that the principal reason for this improvement is the fact that surpluses of major products which depressed prices for three years have been worked off.

Agricultural Conditions Show Improvement

"The agricultural situation in different parts of the country varies materially," said the Secretary, "yet it must be said that conditions in general show improvement. I recognize the plight of agriculture to-day, even in the face of material improvement, but I know of no practical short-cut remedy for these troubles. I can not offer you a single 'cure-all' for the difficulties of the farmer. The solution, it seems to me, must be found in a number of directions.

"The present troubles of agriculture, in no small measure, have grown out of excessive production and the loss of foreign markets, a situation that was brought on by the World War. Surely, then, one of our most important jobs must be to restore a proper balance between the prices of farm products and the prices of other commodities by a better adjustment of the volume of production to the needs of the market. I believe also that it is possible to increase

farm incomes materially through more efficient organization and management of our farms. We need to have more sound business principles injected into agriculture. Many of us can more wisely utilize our land, labor, and capital in reducing farm costs and in increasing net farm incomes. * * *

"Despite our best efforts there will be times when abnormal surpluses will depress prices below profitable levels. No one wishes more ardently than I to find a workable solution for this problem. It should be possible to find some practical means of preventing abnormal sur-

SATISFIED FARMERS

Agriculture is the basic industry of the Nation. It is essential to the life and well-being of all, and it must minister broadly and efficiently for the good of all. As Secretary of Agriculture it will be my purpose to further the development of an agriculture that will serve the Nation amply and well. But, as Secretary of Agriculture, I also represent the farmer in the councils of the Government. I want the farmer to enjoy a standard of living as ample and as satisfying as that enjoyed by his city brother. America wants farmers who remain on the land not because they find it possible to exist there, but because they are really satisfied with farm life. America wants farmers whose standard of living makes for pride in their occupation and for the highest type of American citizenship.—Secretary Jardine at Ames, Iowa, July 10, 1925.

pluses of farm products from having their demoralizing effects.

"Largely through their own efforts farmers in recent years have made adjustments in production that have helped to reduce for the time being the influence of this depressing factor in American agriculture.

"During the past two years I have differed with a large number of honest Iowa farmers as to the best means of solving the agricultural problem. We have heard a great deal of discussion about what Congress could or should do in the way of legislative assistance to agriculture.

(Continued on page 7)

AGRICULTURAL COLLEGE EDITORS HOLD MEETING

State and Department Men Discuss Improved Methods of Reaching Public—Officers Elected

Tracing the development in publications and press material during the first decade of cooperative extension education, Reuben Brigham, in charge of the visual instruction and editorial section, Office of Cooperative Extension Work, spoke highly of the results accomplished in his presidential address at the annual meeting of the American Association of Agricultural College Editors held at Raleigh, N. C., last week. Mr. Brigham called attention especially to the rapid and uniform development toward clarity and simplicity of presentation, attractive make-up and topography, appropriate illustrations, and an appealing title page.

A Strong Appeal Induces Practice

"Every art of the printer to accentuate the appeal and induce the practice of what the publication teaches has been increasingly brought into play," he said. "With the advent of this type of publication, the function and characteristics of the agricultural college editor have likewise undergone modification. Once largely concerned with accuracy of fact and expression and with economy in arrangement, the editor has acquired, in addition, ability to think of prospective readers in terms of their own experience, tastes, and aptitude for putting suggestions into practice. He tends to keep before him constantly and before other extension workers, who are authors of such publications, certain questions which measure the usefulness of the modern extension publication. Provided the facts and the language used are accurate, is the wording simple and direct enough to be readily understood by the typical farmer without a scientific background and vocabulary? Are the make-

up and illustrations used such as to appeal to the taste of the farm reader and illuminate the text? Is the presentation attractive, forceful, and convincing enough to overcome lack of aptitude or disinclination for putting suggestions into practice? The fact that editors of extension publications are asking these questions in addition to giving attention to the fundamentals is probably the most convincing measure of the progress made in the last 10 years in preparing publications effective in cooperative extension."

The extension news service, too, continued Mr. Brigham, has undergone a remarkable development. Ten years ago the press was considered by the State college of agriculture to be largely a means of disseminating propaganda regarding the needs and work of that institution. Now the success of the farm man or woman, boy or girl, influenced by cooperative extension, is recognized as valuable and vital news, not only in the local paper but eventually in the whole field of the press. Farm papers, popular magazines and business journals are featuring these stories of what farm men and women have accomplished through extension work.

State Extension Editors Aid County Agents

Editors in State extension divisions, he said, are now extending aid to county extension agents in creating and perfecting a local county extension news service by personal visits, conferences, and by conducting correspondence courses in news writing. Nearly every State also maintains a weekly or monthly mimeographed or printed news sheet, extension news periodicals and a special service to leading city dailies and farm papers.

Mr. Brigham then described the development made within this past decade in the picturization of ideas—progressing from the early pictorial supplement of the Sunday newspaper, through the liberal and systematic use of photographs as illustrations in extension publications to the present system of distribution of special photographs and series of photographs for use in illustrating news articles for the farm columns or sections of the rural and city press. Allied with this use of photographs is that of other forms of visual presentation such as lantern slides, charts, motion pictures, and exhibits—all with the fundamental purpose of telling the extension story in a simple, clear, and convincing way.

"More recently," said Mr. Brigham, "the radio has taken its place among the agencies with which the extension editor is concerned, supplementing the appeal of the written word and pictures. So rapid has been its development as a means of entertaining and instructing the public that its possibilities as a help-

ful extension agency have been hardly comprehended. Although broadcasting stations are now maintained by 24 State colleges of agriculture, the program rendered in many instances is institutional rather than extension in character. The radio market news and weather services, however, originating with the Bureau of Agricultural Economics and the Weather Bureau, have had a distinct extension application and are reported as having materially aided the extension agent in rendering service to the people of his county. The last two years have witnessed experimentation by several State extension divisions in broadcasting extension programs to rural communities or special talks or addresses on request to local community meetings. The idea of the college of the air is one of the advanced developments in extension radio. Indications are that with further mechanical development and refinement the extension application of broadcasting will give the radio a permanent and highly influential place as an extension medium."

Bulletins and Demonstrations Equally Effective

"Demonstrations and publicity must go hand in hand," said Dr. C. B. Smith, chief of the office of Cooperative Extension Work of the department, speaking on the place of the editor in extension work. "Bulletins and news seem to be about equally valuable as far as our records go.

"The extension editor takes the accomplished fact and tells an interesting story about it. He takes a dead fact and breathes life into it so that it walks among men and persuades them to emulation. * * * In his hands the commonplace man does a worthy constructive thing. He steps out of his commonplaceness and becomes a man of importance in the community. In the editor's hands the extension forces and the community see themselves painted on a master's canvas, where their best selves appear in the best rôles. The extension editor is a purveyor of the best in men and institutions, thinks rarely of himself, and rejoices most when he can record a worthy work worthily done. His is the clearing house for the whole extension service. He gives point and force to all its accomplishments. The records would seem to show fully 25 per cent more practices changed in States with strong publicity departments than in States without such departments.

"More than that, the extension editor is the agent through which the extension service makes contact with the public at large. He keeps the public informed and intelligent on extension matters. He creates a public atmosphere sympathetic to extension work, willing to support it

financially and morally because of its public value. This is an unmeasurable function but a valuable one."

Urban Population Must Understand Rural

"Endeavor to make the farmer, farming, and rural life articulate to the general public," urged Nelson Antrim Crawford, director of information of the department, who spoke at the informal banquet held on Wednesday evening. Mr. Crawford said that hitherto, in the distribution of information, emphasis had been placed upon what would be of most use directly to the farmer—such as knowledge relating to the production and marketing of his crops. Life is now so complex, he said, that no class or group of persons can maintain itself successfully without the cooperation of other groups, and in order to obtain this cooperation a complete understanding of its problems is necessary. Therefore, persons interested in agricultural problems must enlarge the scope of their work.

The majority of the general public has little conception of the farmer and his problems, according to Mr. Crawford. Agricultural college editors can make this knowledge and information available to the urban population. Without this knowledge cities are unable to cooperate in making agriculture more prosperous and useful to the country. The important problem, therefore, is one of getting the farmer's viewpoint before the general public.

A. J. Sims Elected President

The new officers elected at the business session were: A. J. Sims, editor extension service, University of Tennessee, president; C. E. Rogers, associate professor of journalism, Kansas State Agricultural College, vice president; J. B. Hasselman, supervisor of publicity work, Michigan State College, secretary-treasurer. Additional members of the executive committee were R. B. Bowden, director of publications, Montana State College of Agriculture and Mechanic Arts; H. B. Stevens, executive secretary, University of New Hampshire.

Twenty-eight editors and assistant editors were present, representing Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Maryland, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, South Carolina, Tennessee, and Virginia. Those attending from the department were: Nelson Antrim Crawford, director of information; C. B. Smith, chief, Office of Cooperative Extension Work; Reuben Brigham, in charge Visual Instruction and Editorial Section, and L. A. Schlup, assistant, Office of Cooperative Extension Work. Sixteen States sent exhibits, New York winning first place. The judges were C. B. Smith, of the department; C. A. Cobb, editor of the Southern Ruralist, Alabama, and Russell Lord, associate editor Farm and Fireside, New York.

The next meeting of the association will be at the Michigan State College of Agriculture and applied Science, East Lansing.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

FARMERS' 1925 OUTLOOK IS GOOD

Good financial prospects for farmers this year are seen by the department, which says in its July report on the agricultural situation that "given strengthening livestock markets and fair feed crops, plus fair returns from wheat and cotton, farmers would come out of 1925 better than they have in most of the years since 1919." Much can happen between now and the harvest of fall crops, it is pointed out, but "taken as a whole, the main crops promise fairly well except in the case of winter wheat. The present nice balance in both livestock and crop production is a tribute to the readjustments made by American farmers since the fall of 1921." The central fact in the present outlook is that while production will be ample to meet consumption needs, agriculture will not be in the market this fall with any large surplus of the major products.

OUTBREAK OF STICKTIGHT FLEA

During last spring there appeared throughout central and southwestern Texas an unprecedented outbreak of the sticktight flea. The loss was especially severe among young chicks, resulting in a scarcity of fryers on many markets. Egg production was severely cut, the reduction ranging from 5 to more than 50 per cent. The total loss last spring is now estimated at over \$1,000,000, according to the Bureau of Entomology.

SPANISH AND NORWEGIAN CROPS

Forecasts of wheat and rye in Spain are above estimates of last year, while barley and oats are lower, according to a cablegram received by the department from the International Institute of Agriculture at Rome. The condition of wheat in Norway as of July 1 is 97 per cent of normal as compared with 85 per cent last year; rye is 102 per cent against 89 per cent in 1924; barley 100 compared with 86; oats 96 against 79; potatoes 99 compared with 92.

DEFINITIONS AND STANDARDS HEARING

A public hearing on the proper definitions and standards for jellies, jams, preserves, and other fruit products will be held by the joint committee on defini-

tions and standards at the Bureau of Chemistry, Washington, D. C., at 10 a. m. to-day. All interested parties will be given an opportunity to present their views as to what should constitute proper definitions and standards for jellies, jams, preserves, and other fruit products. Those unable to attend the hearing in person may submit their views in writing during the hearing. The joint committee on definitions and standards is composed of representatives of the department, the Association of American Dairy, Food, and Drug Officials, and the Association of Official Agricultural Chemists.

HUNGARIAN WHEAT AND RYE

The Hungarian wheat crop is forecast at 55,115,000 bushels, compared with 50,386,000 bushels harvested last year, according to a cablegram received by the department from the International Institute of Agriculture at Rome. Rye production is forecast at 26,376,000 bushels against 22,858,000 bushels in 1924.

SOME SNAKE MYTHS EXPLAINED

Two of the most persistent and widespread snake myths in the United States, according to the Biological Survey, deal with reptiles locally known as the "stinging snake" and the "hoop snake." Tales have long been told by negroes in the South of snakes that form themselves into hoops and roll in pursuit of their victims with race-horse speed, the tails of which are furnished with horns. If the victim dodged and a tree was struck by the hoop snake it was sure to die. The "stinging snake" myth apparently originated more than 200 years ago and is reported to have been first published in an old "Report to the Lords Proprietors of the Carolinas." John Clayton also mentions this myth in a letter to the Royal Society of London in 1688. In the first-mentioned report it is asserted that there lived in the Carolinas a snake whose tail was a poisoned horn or spike. This account refers to the horn or stinging snake (*Parancia abacura*), which is harmless. The horn snake is bluish black with a few red bars across the belly. The tail of this snake tapers to a fine point having the appearance of a horn or spike, but it is quite incapable of piercing or stinging anything.

Another superstition exists with regard to the glass or jointed snake which is really a legless lizard. It is often said that a stroke of a stick will cause the body of this reptile to disjoint, the pieces wriggling off in every direction, and

coming together again if the head part is not captured. The explanation of this curious phenomenon lies in the ability of this reptile to drop its tail, an act which sometimes enables it to escape while the still wriggling tail attracts the attention of the pursuer. Many other lizards do the same thing, and a "spike" or short and imperfect tail grows in place of the lost tail. This curious reptile is rarely seen, as it lives under decaying vegetation and leaves or burrows in the soil. It is sometimes turned up by the plow. It has long been the subject of discussion, and is merely a harmless, legless lizard (*Ophisaurus ventralis*), and because of its food habits is of considerable value to agriculture.

New Field Station in Southwest to Study Cotton and Rubber Culture

Under the terms of a contract made this spring between the department and the New Mexico College of Agriculture and Mechanic Arts, the former leased a tract of 40 acres belonging to the college. The department is undertaking experiments there in cooperation with the State college. The local farm bureau and chamber of commerce contributed \$1,500 and \$750, respectively, for the necessary construction work for the station.

Experimental work in cotton and rubber will be the primary purpose, but studies also will be made of other crops particularly adapted to the Southwest.

The experiments in cotton will be directed chiefly toward the development of pure seed and the improvement of cultural methods. One of the most important phases of the work will be experiments to determine whether certain varieties of rubber plants can be grown successfully in that section.

In addition to the 40 acres of mesa land leased by the department, there are about 4 acres under the ditch which the department may take over under its contract if it is needed in the future. A portion of the land already has been leveled and put under water by a connection with the college pumping system. Several plots have been planted in cotton.

Owing to the shortage of men during the crop season, the erection of buildings and the making of other improvements on the station will not be undertaken until next fall or winter. When this work is begun, a resident superintendent will be sent there to take charge. Agents of the department will visit the station from time to time to inspect and supervise special work along different lines.



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DOCTOR TAYLOR HOME FROM ABROAD

Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, returned from abroad last week after nine weeks' absence, during which time he negotiated a satisfactory settlement of the universal cotton standards controversy with Liverpool. All of the nine European cotton associations are now working harmoniously with the department in carrying forward the universal cotton standards agreement, he reports.

Doctor Taylor also attended the International Cotton Congress, June 4-6, at Vienna, at which the cotton spinning and weaving industry of the world, aside from the United States, was represented. At this conference the universal standards were exhibited. The cotton spinners of Europe have manifested much interest in universal standards and wish to buy on the basis of these standards. They would also like to have staple standards established, and at their convention passed a resolution asking the department to interest itself in the establishment of universal staple standards for cotton.

The department was also represented at the International Cotton Congress by W. A. Schoenfeld, who presented a paper on cotton-crop estimates. This paper made an excellent impression, Doctor Taylor said. During the meeting it became evident from the discussions that the cotton-crop estimates of the department are looked upon as the best information available on the cotton crop.

Doctor Taylor also visited the International Institute of Agriculture at Rome and had some very interesting conferences with Mr. Hobson and Mr. Estabrook.

During the 10 days before sailing for home Doctor Taylor called at a number of farms in England and Scotland, which he had visited 26 years ago, and compared the present condition with the condition of a quarter of a century ago.

This was made possible by the fact that very carefully detailed notes were taken at the time of the first visit.

DR. E. D. BALL EMPLOYED BY FLORIDA

Dr. E. D. Ball, director of scientific work of the department, has been appointed by the State Plant Board of Florida to carry on an intensive study of the celery leaf-tyer in the Sanford celery section and in other celery-growing districts of that State.

In accepting Doctor Ball's resignation, Secretary Jardine wrote him the following letter:

I am very reluctant to accept your resignation, which was tendered me before I entered office, but as you have expressed a desire to enter upon new duties on August 1, I accept it effective on that date.

I fully appreciate the splendid contribution which you have made to the scientific research work of the Department of Agriculture as the first Director of Scientific Work and as Assistant Secretary of Agriculture. I am particularly grateful to you for your efforts in fostering closer cooperation, coordination, and understanding between the department and agricultural colleges and experiment stations. You have laid the foundation for effective work in the future.

With best wishes for success in your new field, I am,

Sincerely yours,

W. M. JARDINE.

The investigation of the celery leaf-tyer and other insects and diseases of celery will be carried on in close cooperation between the State Plant Board, the Agricultural Experiment Station of the University of Florida, the agricultural extension division of the College of Agriculture, and the Bureaus of Entomology and Plant Industry of the United States Department of Agriculture. With all of these agencies working in close harmony it is hoped that many of the celery growers' troubles will be solved within the next two years. Doctor Ball will start upon his new work August 1.

An account of Doctor Ball's work with the department and the notice of his resignation appeared in THE OFFICIAL RECORD for March 11.

The Society of American Foresters will award the sum of \$1,000 as two prizes for the best papers on the advancement of forestry, announces the Forest Service. Each prize will consist of \$500, one to be given at the end of 1925 and the other at the end of 1926. Each paper will be limited to 10,000 words in length and should be professional in character rather than popular.

Regulations under the United States cotton futures act as amended, effective June 15, are now available in printed form as Service and Regulatory Announcements No. 91. Apply to the Bureau of Agricultural Economics for copies.

J. H. McClain Appointed Head of Dairy Introduction

John H. McClain, formerly engaged in dairy field work for the Bureau of Dairying, has been promoted to be head of the introduction work in that bureau, with headquarters in Washington, effective July 1. This is the position formerly held by S. C. Thompson, who died in April.

Mr. McClain's promotion is in recognition of his splendid results in carrying out dairy projects among farmers and creamery men in cooperation with the agricultural colleges. During his 16 years of service he has established a wide acquaintance throughout the States in his territory and has familiarized himself fully with the methods of organizing and conducting educational work in dairying. Thus he is well qualified for carrying the increased responsibilities which he now assumes.

While his new duties will keep Mr. McClain in Washington much of the time, he hopes to organize the work in a way that will enable him to make occasional trips in the field and keep in close touch with the work there, especially those activities in which the department is cooperating with the States.

Following his graduation from Clemson Agricultural College (South Carolina) in 1906, Mr. McClain received a temporary appointment in the dairy division of the Bureau of Animal Industry, from which he resigned the following year to take some special courses in dairying at Cornell University. He was reappointed in 1908, and since then has been continuously employed by the department, except two years when he was managing his own farm and a short period in 1919, when he took a shipment of dairy cattle to France for the French high commissioner.

FOOD AND DRUG OFFICIALS TO MEET

The Association of Dairy, Food, and Drug Officials of the United States will hold its twenty-ninth annual conference in Denver, Colo., July 28 to 31, inclusive. The value of these conferences in promoting and fostering the enactment and enforcement of uniform legislation effective for the protection of the public health and the prevention of fraud and deception in the production, manufacture, distribution, and sale of food products and drugs is well established. Assistant Secretary of Agriculture R. W. Dunlap, formerly State food and dairy commissioner of Ohio, will address the convention.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Are county agents permitted to help farmers organize into cooperative associations to get better prices for their farm products and to buy certain other commodities at lower prices?

Answer. County agricultural extension agents are members of the cooperative educational system of the State agricultural colleges and the Federal Department of Agriculture, and the transmission of information regarding the best practices in grading, packing, and shipping farm commodities and of the results from Federal and State studies of the relative efficiency of different methods used in getting farm products from producer to consumer and studies of cooperative relationships is properly included in their educational activities. Since county extension agents are public officials, paid from public funds, they may not themselves engage in competitive business, cooperative or otherwise.

Question. Is surplus war explosive still available from the Department of Agriculture?

Answer: Yes; shipments of pyrotol in carload lots to groups of farmers are being made from Gibbstown, N. J., Barksdale, Wis., and Dupont, Wash. Detailed information may be secured from State agricultural extension services or from the Department of Agriculture.

Question. Will it ever be possible for the annual growth of forest products in the United States to equal the annual consumption?

Answer: It will be possible with fairly intensive forestry to grow around 27,000,000 cubic feet of wood a year by utilizing the country's whole forest area (470,000,000 acres). But this can not be accomplished in less than 50 to 100 years from now. Present consumption is around 22,500,000,000 cubic feet. The possible reduction by substitutes, eliminating wastes, etc., will be offset by population growth. Therefore the nation is not likely to need less wood, but rather more—if we can get it.

Question. Does the Federal Department of Agriculture have pheasants or their eggs for distribution?

Answer. No; the Federal department does not distribute either pheasants or any other game birds or their eggs. Several of the State game departments have done so, however, and inquirers should

write to the chief game warden of their own States. These birds can be purchased from numerous dealers, and lists of dealers are furnished by the Biological Survey.

DOCTOR SKINNER PLANS WESTERN TRIP

Dr. W. W. Skinner, assistant chief of the Bureau of Chemistry, plans to make a trip to the Pacific coast in July and August to attend the twenty-ninth annual meeting of the Association of Dairy, Food, and Drug Officials in Denver and the annual convention of the American Chemical Society in Los Angeles. He will visit the Bureau of Chemistry branches in Chicago, Denver, Los Angeles, San Francisco, and Seattle. W. S. Frisbie, in charge of the office of cooperation, will accompany him on a portion of the trip.

Doctor Skinner and Mr. Frisbie expect to leave Washington on July 23, spending the 24th at the Chicago office and reaching Denver on the 26th. After attending the convention there, Doctor Skinner will make connections with the chemical convention special train at Colorado Springs on July 30, which will put him in Los Angeles on August 2. On the 3d he will visit the Fruit and Vegetable Chemistry Laboratory and go over with E. M. Chace, chemist in charge, plans regarding the citrus and maturity work of that laboratory. On the 4th, 5th, and 6th he will attend the meetings of the American Chemical Society. On the 7th and 8th he will discuss with Mr. Chace and W. Vincent, chief of the western district, plans for the future work on frozen oranges and the sulphur problem. He will spend two or three days at San Jose or elsewhere in California inspecting the sulphuring of fruit on a commercial scale.

Doctor Skinner will remain in San Francisco and vicinity until about August 13, when he and Mr. Frisbie will proceed to Portland, Seattle, and Spokane. Doctor Skinner will return to Washington about August 23. Mr. Frisbie will visit a number of the State and city food and drug officials while in the West.

BELGIAN STUDIES AMERICAN METHODS

Mlle. Elvire Smeyers, supervisor of household arts in the schools connected with the ministry of agriculture in Belgium, has been visiting various offices of the department during this month. Mlle. Smeyers is in this country under a fellowship granted by the international education board to study the subject matter and methods used here in teaching home economics to children and adults in rural

communities. A demonstration of home methods of canning fruits and vegetables and jelly making was arranged for her in the Bureau of Home Economics. The week of June 15 Mlle. Smeyers attended the conference for farm women at the University of Maryland. From Washington Mlle. Smeyers will go to the University of Chicago, Iowa State College, and the New York State Colleges of Agriculture and Home Economics at Cornell University. In Iowa and New York she will have opportunity to make field trips with the extension workers, as well as to observe the resident teaching.

TO SURVEY NEW ENGLAND ORCHARDS

The largest survey of New England orcharding ever to be taken was started from Amherst last week. The department is cooperating with the Massachusetts Agricultural Experiment Station, the Massachusetts Agricultural College, and the State departments of agriculture. As a result of the survey it is expected to show, first, the competition between apples and other fruits on New England's markets; secondly, the competition between New England apples and those from other regions; and thirdly, to determine the possibilities of exporting New England apples profitably.

A committee composed of representatives from each New England State has drawn up a general questionnaire, and each State may add more queries as it needs the information. The enumerators will be chiefly students of the State agricultural colleges. Funds available under the Purnell act are in large measure financing the undertaking.

OMAHA ORGANIZES U. S. D. A. CLUB

Department employees located at Omaha met there on June 16 for the purpose of organizing a U. S. D. A. Club. Approximately 200 employees are believed to be in Omaha, and over half this number attended. Those present unanimously agreed that such an organization should be formed and appointed temporary officers at once. Those elected were Charles Bruce, Agricultural Economics, president; E. Jackson, Animal Industry, secretary; and Dr. H. Busman, Animal Industry, treasurer.

Mr. Bruce immediately appointed a committee of five from the various projects to serve in drawing up by-laws for the organization. He also appointed an entertainment committee to arrange for a dinner for the club members and their wives scheduled to have been held June 26.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

SHEEP-SCAB ERADICATION EFFECTIVE

For many years wool growers in Idaho, Montana, Nevada, and Oklahoma, labored under great difficulties with their flocks because of the presence of sheep scabies. In 1919 there were 250,000 sheep in Idaho infected with scab, almost 31,000 in Nevada, more than 17,000 in Oklahoma and a few in Montana.

The Bureau of Animal Industry, cooperating with the Board of Sheep Commissioners of Idaho, inaugurated an intensive campaign to combat the infection. This was accomplished through the systematic dipping of all infected and exposed bands under the supervision of experienced bureau and State employees and the rigid enforcement of strict quarantine measures. Splendid cooperation was received from the sheepmen of Idaho in this undertaking. The campaign required 2 years and 10 months, resulting in the complete eradication of the disease from that State. It has now been nine months since any scabby sheep have been found there.

The same dipping and quarantine measures found so effective in Idaho were employed in Montana and Nevada with great success. No infection has been found in Montana since 1920, and none in Nevada since 1923. In 1922 Oklahoma was considered free of sheep scabies, but the following year 6,250 sheep were found to be infected with scab mites. Active measures were again taken in that State, resulting in the complete elimination of the disease by the next year, and it has not occurred since that time.

The second outbreak in Oklahoma serves to show that flockmasters in the Intermountain Region, in order to continue to reap the benefits accruing from the eradication of this disease, must continue to exercise the utmost vigilance and promptly report any outbreak in their flocks which in any way resembles scabies. They should not introduce sheep from other States into their bands unless the animals come from a territory known to be free or are dipped as a precautionary measure in a permitted dip before mingling with the sheep already on hand.

Because of the successful campaign against scabies waged under the auspices of the Bureau of Animal Industry, wool growers are bringing new problems be-

fore it and requesting continued Federal cooperation to get rid of other infections and feed losses.

WITH EXTENSION FORCES

WHEN EVERYBODY HELPS

The advantages of community organization and a sympathetic community spirit in conducting extension work is very generally appreciated, and provision is made in many extension programs for efforts to develop such organization and support. The county agent of Ray County, Stewart Leaming, in cooperation with B. L. Hummel, specialist in rural organization, Missouri College of Agriculture, has followed a systematic community organization plan with results frequently exceeding the goal.

Central Community of Ray County was selected for the first trial of the plan. The county agent first talked with representative men and women of the locality about the plan, found them interested, and arranged for them to meet with the specialist and himself in October, 1923, for further discussion. At this preliminary conference plans were made for a community-wide meeting.

At the first community meeting a president, vice president, a secretary-treasurer, and five committees, agricultural, homemaking, educational, civic and social, were elected. Later the committees met with Mr. Hummel and Mr. Leaming, and after each committee drew up its tentative program for the year all members worked together in combining these into a community program by making any modifications needed to coordinate the work.

Last year's program covered soy bean demonstrations, worm-free pig demonstrations, boys' pig clubs, dairy-cattle work and chinch-bug burning, a child-feeding project, food-selection work, kitchen-improvement and attractive-homes projects, garment-making and canning clubs, the establishment of a circulating library, investigation of the standing of the local schools and development of hot school lunches, road dragging and repair, road markets and roadside improvement, community recreation day, home-talent plays, socials, a community band, orchestra, chorus, and quartette, and a baseball team. Community meetings were held once each month. The time on each occasion was divided between practical matters and social features.

Progress was made on practically all of these undertakings. Besides, Central Community trained State prize-winning teams of boys' and girls' club members,

held a large camp for their club members at the State fair, joined with another community in assuming responsibility for all details of a large county extension meeting, held a local-talent Chautauqua attended by 2,800 people, and made other contributions to the progress of their community and county.

An addition to Central Community's plans was an achievement-day program held January 7, 1925, to show leaders of communities in other counties what a community organization does and how it goes about it. All Ray County communities which had organized by this time, and there were some seven or eight, sent representatives. Over 250 people from this and adjoining counties attended.

Ray County was one of five Missouri counties cooperating with Mr. Hummel in the initial community organization work started in October, 1923. There are now 42 counties, embracing about 588 communities in the State, making progress on their organization plans.

LOS ANGELES U. S. D. A. CLUB

The June meeting of the Los Angeles U. S. D. A. Club was postponed until June 15 on account of the visit of Secretary Jardine to that city.

The Los Angeles Chamber of Commerce and the California Development Association gave a luncheon to the Secretary at noon at the Biltmore Hotel, at which reservations were made for members of the department club. About 1,000 representatives of agricultural and industrial interests were present and received the Secretary's address with marked attention. He touched on the status of agriculture and emphasized the need by the farmers of the Nation for closer cooperation, both among themselves and with the business interests of the country.

At 2.30 p. m. nearly 50 department employees, representing all offices in the city and most offices in southern California, gathered in the conference rooms of the chamber of commerce. Secretary Jardine gave a short talk, stressing the need of applying honest endeavor and common sense to the problems that confront each one in his daily work and bringing the message of expansion of the work of the department in efficiency and service rendered. President Beauchamp, of the department club, requested Colonel Hersey, as oldest representative of the department present in point of service, to respond to the Secretary's address and thank him for his message. Each one present gave his name and line of work and was given an opportunity to meet the Secretary.

ADJUSTED PRODUCTION TO REDUCE SURPLUSES

(Continued from page 1)

"Congress has passed a large number of agricultural bills in recent years which have been of material assistance to farmers. There is the agricultural credits act of 1923, the packers and stockyards act, the grain futures act, the War Finance Corporation—to mention a few of them. I further believe that Congress is ready and willing to give consideration to other helpful measures.

Legislation Not a Panacea

"But too few people stop to consider that legislation can not accomplish everything. There is no magic power in legislation as a panacea for agricultural difficulties. The many constructive acts now on our statute books have not solved the fundamental agricultural problems. They have been, shock absorbers—a helping hand. I am one who firmly believes that the farmer can not be legislated out of his difficulties.

"While considering the problem of surpluses, I should add a word in regard to the need of exercising a better control over the expansion of our farm-land area. We of the West have grown up in an atmosphere of expansion—more people, more land under cultivation, and a larger crop production. But in the last few years we have had forced upon us the fact that more expansion in agriculture is not necessarily good. Putting people on land where they can not make a living and where their products not only bring them no profit but force down the prices for others does not benefit any farmer. * * *

"I am in favor of lending every legitimate help and assistance to farmers on land now under cultivation. Farmers who do not have sufficient water on irrigated areas now under cultivation should be helped. But in general I am opposed to bringing new areas under cultivation until we have found a market for the products we are now producing.

"Several other aspects of the farm problem call for serious consideration. To restore the purchasing power of the farmer, it is highly essential that we give attention to the matter of taxes, freight rates, and other items that enter the debit side of the farmer's ledger.

High Farm Taxes Need Attention

"Taxes on farm property are high. Between 1914 and 1923 there was an increase of approximately 140 per cent in farm taxes, whereas the value of farm products in the same period increased only 58 per cent. The Federal Government under the leadership of President Coolidge has attacked the tax problem in a definite way. Economy in Federal

expenditures as a means of reducing the tax burden has been assuring to the American people. Quite apart from this angle is the local tax problem which should receive attention if we are to enjoy further relief.

"I also believe that we must have substantial readjustments in freight rates. High freight rates are one of the many causes that have contributed to the depression in farm prices, especially in areas distant from the market. It is generally conceded that the entire freight-rate structure needs overhauling. Freight rates the country over have grown up in a haphazard way and as a result of all sorts of local considerations. It has been my opinion that a careful study should be made of the entire freight-rate structure. On the basis of such a study it should be possible to make rate adjustments that take into account the market value of farm products as reflected over a reasonable period of years and likewise the influence of freight rates on the economic development of regions and of the country as a whole. I realize that the cost to the carriers must be fully reckoned with as a factor in rate making, as railroads are indispensable to a profitable agriculture. * * *

"I believe we are agreed that the system of distribution also needs considerable attention. I recognize that this widening spread is in part due to increasing costs, but I also believe that there are needless waste and duplication in the marketing of our products.

Has Faith in Cooperative Marketing

"I have on another occasion discussed this phase of the subject in some detail, but I wish at this time to reiterate my faith in the service which efficiently managed cooperative marketing associations can render in solving both the production and marketing problems of the farmer. I know of no single factor that can be more useful than a well-managed cooperative association in helping the farmer to adjust his production to the demands of the market, improve the quality of his product, and feed it to the market when and where it is needed. * * *

"California and other Pacific Coast States have been able to weather the agricultural depression much better than other sections of the country. This is partly because markets for the products of these States could be expanded more readily than could the markets for many of the staple agricultural products. At the same time it is true that much of their success in tiding over the depression must be ascribed to the successful merchandising of farm products

through cooperative marketing associations. * * *

"I sincerely believe in the principle of cooperative marketing as an important means of placing our agriculture on a more profitable basis. From the viewpoint of the farmer the cooperative is not a mere business organization in which he invests a small part of his capital. It is an organization into which he places his entire year's work and that of his family. His welfare and that of his family are wrapped up in the success of the association. Let us have a more thorough understanding of the functions and responsibilities of the cooperatives and I predict for them a large measure of success."

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

North Carolina.—H. A. Stone, fellow-ship student in the State college, has been appointed assistant club agent for a period of four months to aid primarily in handling club encampments, rallies, and fairs. G. P. Williams, extension sheep specialist, has resigned to enter commercial work. E. G. Wardin, assistant poultry extension specialist, who resigned, effective June 30, has been succeeded by C. F. Parrish.

Montana.—Grace Carey has been appointed home demonstration agent for Carbon County.

FORTHCOMING EVENTS

Beginning July 13 a series of boys' camps will be held for six weeks in Georgia at the State College of Agriculture, closing August 22. A group of 150 to 200 boys is expected each week, six groups in all, representing as many sections of the State. From August 24 to 29 the State Agricultural Society, the State Horticultural Society and the State Market Conference will meet at the boys' and girls' club camp on the campus of the State college.

IMPORTANT DEVELOPMENTS

The extension division of the Georgia State College of Agriculture is starting an alfalfa campaign in the northern part of the State. Twelve special county agents have been sent out to conduct the demonstrations and secure plantings in counties without county agents.

Data recently collected by the Forest Service shows that the receipts from 1906 to 1924 from timber sales and grazing totaled \$53,554,000, which was about evenly divided between the two sources of revenue.

PRINCIPAL LIBRARY ACCESSIONS

CATTLE

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COTTON

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Trought, Trevor. A statistical note on the cotton variety tests at Sakha 1916-1920. Cairo, 1925. (Egypt. Ministry of agriculture. Technical and scientific service. Bulletin no. 51.)

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Heyne, K. Oils and oil-containing seeds. Buitenzorg (Java) Division of industry and commerce of the Dept. of agriculture, industry, and commerce [191-].

WOOL MANUFACTURE

Schofield, John. The wet processes of the wool industries. Huddersfield, Eng., Netherwood, Dalton & Co., 1924.

ENGINEERING

Adams, Henry. The mechanics of building construction. New ed. London, Longmans, Green, 1923.

Brunner, Josef. Beitrag zur geschichtlichen entwicklung des brückenbaues in der Schweiz. Bern, Böhler & Co., 1924. Inaug.-diss.—Zürich.

Burgdorfer, Ernst. Der eingelegene bogen für massive strassenbrücken. Berlin, J. Springer, 1923. Inaug.-diss.—Zürich.

Stoop, M. A. Die erfindung der brückenprüfungen in eisernen einfachen balkenbrücken mit konstantem trägheitsmoment. Zürich, Gebr. Leemann & Co., 1923. Inaug.-diss.

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Fox, C. S. Civil engineering geology. London, C. Lockwood, 1923.

Ries, Heinrich, and Watson, T. L. Engineering geology. 3d ed. New York, Wiley, 1925.

NATURAL HISTORY

Materiaux à la rayonnement de l'Ukraine. Matériels zur rayonisation der Ukraine, t. 1. Klv, 1922.

ZOOLOGY

Jones, F. W. The mammals of South Australia. v. 1-2. Adelaide, R. E. E. Rogers, government printer, 1923-24. (Handbooks of the flora and fauna of South Australia, issued by the British science guild, South Australian branch.)

Kirkpatrick, T. W. The buff-backed egret (Ardea ibis, L., Arabic Abu gerdan) as a factor in Egyptian agriculture. Cairo, 1925. (Egypt. Ministry of agriculture. Technical and scientific series. Bulletin no. 56.)

Needham, J. G., and Claassen, P. W. A monograph of the Plecoptera or stoneflies of America north of Mexico. Lafayette, Ind., 1925. (Thomas Say foundation of the Entomological society of America v. 2.)

Seton, E. P. Life and game animals. v. 1. Garden City, Doubleday, Page, 1925.

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Beuhne, F. R. Honey flora of Victoria. 2d ed. Melbourne, Dept. of agriculture, 1923.

Black, J. P. Casuarinaceae-Euphorbiaceae. Adelaide, R. E. E. Rogers, government printer, 1924. (Handbooks of the flora and fauna of South Australia, issued by the British science guild, South Australia branch.)

Kew. Royal gardens. Hand-list of hardy monocotyledons cultivated in the Royal botanic gardens. London, 1925.

Kew. Royal gardens. Hand-list of herbaceous plants (excluding rock garden plants and hardy monocotyledons) cultivated in the Royal botanic gardens. 3d ed. London, 1925.

Kew. Royal gardens. Hand-list of rock garden plants cultivated in the Royal botanic gardens. London, 1925.

Kew. Royal gardens. Hand-list of trees and shrubs, excluding Conifera, grown in the Royal botanic gardens. Kew. 3d ed. London, 1925.

Solomides, Z. I. The silver leaf diseases of fruit trees and their cure. Croydon, Eng., Modern press, Clayton works, 1925.

Vilmorin-Andrieux et compagnie. Calendrier des semis et plantations. Paris, 1925.

ECONOMICS

Bouchard, Georges. Le domaine rural canadien. Montreal, 1924. (L'Ecole sociale populaire. Publication mensuelle, no. 130.)

Macdonald, William. The intellectual worker and his work. London, J. Cape, 1923.

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Martyn, John. Historia plantarum rariorum. Nürnberg, A. Bieling, 1752.

Rappahannock River agricultural and mechanical society. Proceedings. Fredericksburg, 1893.

Roupeil, A. E. Specimens of the flora of South Africa. London, 1849.

PERIODICALS CURRENTLY RECEIVED

Agronom. [pub. irreg.] v. 1, no. 1—Feb., 1923—Klv.

Molodii doslodnik, [bi-monthly] no. 1—Jan./Feb. 1924—Kharkiv.

Poland (1918—) Ministerstwo skarbu. Statistical bulletin of the Ministry of finance, no. 1—Jan., 1925—Warsaw.

V pomoshch zemledel'tsu: sel'sko-khozia-stvennyi i kooperativnyi zhurnal. [Monthly] v. 2, no. 10—Aug., 1924—Omsk.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of June 29-July 3, 1925. Copies of these publications may be obtained from the stations issuing them.

Thirty-third annual report [Arizona Station] for the year ended June 30, 1922. J. J. Thornber et al. Pp. 171-250, figs. 13.

Beef calf club manual. W. H. Smith and R. R. Snapp. (Illinois Sta. Circ. 296, pp. 26, figs. 21. June, 1925.)

Soil survey of Iowa—Dubuque County soils. W. H. Stevenson, P. E. Brown, C. L. Orbren, L. W. Forman, J. L. Boatman, and W. G. Baker. (Iowa Sta. Soil Survey Rpt. 35, pp. 72, pls. 2, figs. 14. Sept., 1924.)

Soil survey of Iowa—Emmett County soils. W. H. Stevenson, P. E. Brown, D. S. Gray, L. W. Forman, and W. G. Baker. (Iowa Sta. Soil Survey Rpt. 36, pp. 72, pl. 1, figs. 15. Nov., 1924.)

Soil survey of Iowa—Dickinson County soils. W. H. Stevenson, P. E. Brown, L. W. Forman, J. L. Boatman, and W. G. Baker. (Iowa Sta. Soil Survey Rpt. 37, pp. 72, pl. 1, figs. 16. Dec., 1924.)

Chinch-bug barriers for Kansas conditions. J. W. McColloch. (Kansas Sta. Circ. 113, pp. 6, figs. 3. June, 1925.)

Milk substitutes in the rearing of young calves. J. B. Lindsey and J. G. Archibald. (Massachusetts Sta. Bul. 223, pp. 41-51. Mar., 1925.)

Effect of spray pressure and number of nozzles on late blight of potatoes. O. Butler. (New Hampshire Sta. Circ. 21, pp. 4, figs. 4. Mar., 1925.)

Control of apple scab. O. Butler. (New Hampshire Sta. Circ. 25, pp. 8, Apr., 1925.)

Recent results of work of the N. C. Agricultural Experiment Station and the present program of work. B. W. Kilgore. (North Carolina Sta. Bul. 247, pp. 72, figs. 16. Apr., 1925.)

Fact finding for northwestern North Dakota farming—1903-1924. A. C. Kuenning. (North Dakota Sta. Bul. 190, pp. 36, figs. 6. Feb., 1925.)

Fertility in the apple orchard. R. D. Anthony and J. H. Waring. (Pennsylvania Sta. Bul. 192, pp. 15, figs. 5. Feb., 1925.)

CIVIL-SERVICE ANNOUNCEMENT

Junior engineer, \$1,860. (Aeronautical, ceramic, civil, electrical, hydraulic, irrigation and drainage, materials, mechanical, mechanical fuel combustion, naval architecture and marine engineering, and structural.) Vacancies occurring in the Federal classified service

throughout the United States will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close August 8, 1925.

Articles in Current Publications By Department Workers

Bennett, H. H. (Bureau of Soils). Agriculture in Central America. Journal of the American Soc. of Agronomy, vol. 17, no. 6. June, 1925.

Couch, Leo K. (Biological Survey). Rodent damage to young forests. The Murrelet, vol. 6, no. 3, pp. 39. May, 1925.

Grover, D. L. (Public Roads). The deterioration of concrete in sea and alkali water. American Highways, vol. 4, no. 3, pp. 14-15. July, 1925.

Hall, Morris A., H. R. Trumbower, and E. L. Browne (Public Roads). Transporting milk by motor truck. Automotive Manufacturer, vol. 67, pp. 8-10. May, 1925.

Hamilton, C. C. (Univ. of Md.), and C. M. Smith (Bureau of Chemistry). A colorimetric method for showing the distribution and quantity of lead arsenate upon sprayed and dusted surfaces. J. Econ. Entomol., vol. 18, no. 3. June, 1925.

Jones, D. B., and C. E. F. Gersdorff (Chemistry). Proteins of wheat bran. II. Distribution of nitrogen, percentage of amino acids and of free amino nitrogen: a comparison of the bran proteins with the corresponding proteins of wheat endosperm and embryo. J. Biol. Chem., vol. 64, no. 2. June, 1925.

MacDonald, Thomas H. (Public Roads). The urgent necessity for uniform traffic laws and public safety devices. Florida Highways, vol. 2, pp. 1-3. 8. June, 1925.

—Federal road job failures. Pacific Street & Road Builder, vol. 16, pp. 28, 30. June, 1925.

Phillips, Max (Chemistry). The preparation of 2-aminoanthraquinone from phthalic anhydride and chlorbenzene. Ind. Eng. Chem., vol. 17, no. 7. July, 1925.

Piper, C. V. (Plant Industry). Pearlwort. Bulletin Green Section U. S. Golf Association, vol. 5, pp. 136-138, illus. June, 1925.

Preble, E. A. (Biological Survey). The yellow swallow-tailed butterfly. Nature Magazine, vol. 6, no. 1, p. 31. July, 1925.

Purcell, C. H. (Public Roads). Profit and loss in bidding. Western Highways Builder, vol. 7, no. 6, pp. 16, 22. June, 1925.

Rose, D. H., and N. E. Stevens (Plant Industry). The excessive politeness of American botanists. Science, vol. 61, pp. 656-657. June 26, 1925.

Veitch, F. P., and T. D. Jarrell (Chemistry). Report on the determination of moisture in leather. J. Am. Leather Chemists Assoc., vol. 20, no. 7. July, 1925.

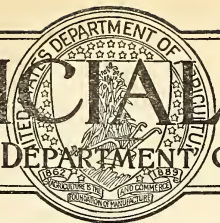
Ward, Florence E. (Office of Cooperative Extension Work). The first real holiday in years. Woman's Home Companion, vol. 52, no. 7, p. 13. July, 1925.

DENVER U. S. D. A. CLUB

A very interesting meeting of the Denver U. S. D. A. Club took place at the Albany Hotel June 9, when William D. Reynolds of the Reynolds Radio Co. addressed the club on "New developments in radio." In introducing this speaker, the president of the club told of his pioneer work with radio in Colorado long before the public knew what radio was. Mr. Reynolds said, among other things, that there would probably be no radical changes in radio in the next few years, but rather a refinement of the present equipment.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., JULY 22, 1925

No. 29

TAKE YOUR VITAMINS IN FOODS NOT DRUGS

Present Knowledge of Essential Food Factors Summarized by Bureau of Chemistry

"Vitamins should be sought in the garden or in the market and not in the drug store," says Dr. D. Breese Jones, chemist in charge of protein investigations of the Bureau of Chemistry, United States Department of Agriculture, in a recent report giving a summary of our present knowledge of vitamins. "In cases of suspected vitamin deficiency in the diet," according to the report, "corrective measures should be taken through the use of suitable natural foodstuffs and not through commercial vitamin preparations, many, if not most, of which are worthless."

Vitamins Likened to Spark Plugs

Vitamins play a very different rôle in nutrition from the other food constituents. They are essential to growth, health, and life, but they contribute neither energy nor tissue building material. Their function has been likened to that of the spark plug in a gas engine. They are often referred to as the accessory food factors.

People and animals are unable to provide vitamins within their bodies. Lack of sufficient vitamins in the diet is soon followed by serious consequences. Young animals will fail to grow normally, and adults will rapidly decline in weight and develop certain characteristic affections known as deficiency diseases.

It is now known that there are at least five vitamins, designated as A, B, C, D, and E, and it is probable that others will be discovered. The absence from the diet of any one of the five will produce certain characteristic effects.

Vitamin A, for instance, is essential to growth and health. Young animals on a diet devoid of it soon stop growing and lose weight. Their vitality becomes low-

ered, and they are less able to resist disease and infection, particularly of the respiratory tract. In many animals, as rats, dogs, rabbits, and poultry, and also in man, a characteristic affliction of the eyes results. The administration of vitamin A prevents or promptly cures this affliction. Growing animals require more of it than do adults. It is abundant in butter, cream, cheese, whole milk, egg yolk, the liver, heart, and kidneys of animals, in spinach, lettuce, cabbage, tomatoes, carrots, sweet potatoes, parsnips, and green peas, and is present in varying quantities in many other foods. Cod-liver oil is rich in this vitamin, and the liver oils of some other varieties of fish contain it.

Vitamin B Essential to Health and Growth

Vitamin B is also necessary for the maintenance of life and health at all ages. Lack of it promptly results in loss of appetite and arrest of growth, which is followed by various functional disorders, and finally death. This is the most widely distributed of all the vitamins. It is abundant in green plant tissues. Cereals and seeds contain it, the germ of the seed being an exceptionally good source. Yeast and wheat germ are standard sources of this vitamin in experimental work. Roots and tubers as a class are good sources of it, and it is especially abundant in tomatoes. Most fruits and nuts are well supplied with it. Meat is reported to contain vitamin B. The heart appears to be the richest in this vitamin, and the liver and kidney have only slightly lower values. The flesh of the chicken, turkey, duck, and guinea fowl, however, are deficient in it.

Diseases Produced by Lack of Vitamin B

Notwithstanding the wide distribution of vitamin B in foodstuffs, certain classes of people, as soldiers, sailors, travelers, infants, and others, living on restricted or artificial diets, have suffered serious consequences because of a lack of it. Beriberi, one of the diseases produced by the absence of this vitamin, is most commonly found among those living

(Continued on page 8)

STUDY RADIO USE BY IOWA FARMERS

Survey Shows Increasing Importance and Benefits Derived from Reports Broadcast

The use of radio among farmers in Iowa has increased more than 60 per cent during the past year. This was brought out as the result of an intensive survey just made by the Bureau of Agricultural Economics. It was shown that at the present time 16 per cent of the farms of Iowa, or a total of 33,597 country homes, are equipped with radio sets.

One of the outstanding facts brought out by this inquiry is that farmers are buying sets capable of receiving from stations hundreds of miles away.

In Iowa there are five powerful stations which broadcast programs designed to serve the agriculture of the State—Station WOI of the Agricultural College at Ames, WCO at Davenport, WHO at Des Moines, KFNF at Shenandoah, and WEAU at Sioux City.

Entertainment Incidental to Practical Service

Programs of interest to farmers, the survey shows, include weather reports, current market news and quotations on livestock, fruits and vegetables, dairy and poultry products, and hay, feed, and grain, and the educational talks from the agricultural college. Farmers are not averse to listening to pleasing entertainment, but hundreds of letters received by the Bureau of Agricultural Economics from farmers indicate that radio sets in the farm homes are not installed mainly for entertainment, but for practical service. Music and other forms of entertainment are appreciated but are incidental, it is stated.

What is true of Iowa is also true of other States. The South St. Paul Office of the Bureau of Agricultural Economics is frequently visited by stockmen and producers who are now being served with market information over the radio.

One visitor recently stated that farmers and stockmen for many miles around come to his home to hear market reports as they come in over the radio. A firm at Erie, N. Dak., reports that it obtains the report of market conditions more satisfactorily and at less expense over the radio than by commercial wire as formerly.

Radio Saves Stockman \$900

The importance of radio in connection with the market news service of the Bureau of Agricultural Economics is being emphasized daily. Arrangements are being made wherever possible to have market reports broadcast from a station located in a city where the bureau has leased wire connections. Reports can then be dispatched from Washington headquarters to branch offices and promptly released for broadcasting. At Kansas City, where this is done, especially good results have been noted. A stockman called at this office recently to express his appreciation of the service, stating that due to his receiving prompt radio reports on the hog market, he realized a saving of \$150 a car on six cars of hogs.

A more general survey of radio in the Middle West recently conducted by a farm paper showed that out of 10,614 farmers more than 14 per cent had radios. This survey covered portions of 13 States, and indicated that the percentage of those having sets varied from 4 in Oklahoma to 22 in Nebraska. Another point brought out, as in the Iowa survey, is that farmers do not buy cheap sets, but prefer those of three tubes or more which will receive from distant stations. Over 60 per cent of the sets reported upon in the survey had three or more tubes. It was also shown that at least 25 per cent of farmers who do not now own radios intend to buy sets within the year.

Concrete examples of how producers and shippers depend upon the radio to keep in almost immediate touch with market conditions seem to indicate that the day is not far distant when the radio will be quite as essential to the farmer and stockman as the telephone is now. A realization of the possibilities of radio is developing in many States among agricultural leaders, and with the cooperation of the Department of Agriculture the number of farmers benefiting by radio broadcasting can be increased until farm radio audiences include every farmer in every State.

EARTHQUAKE DESTROYS FOREST OFFICES

The Santa Barbara earthquake came close to home when it demolished the offices of the Santa Barbara National

Forest. No one attached to the Forest Service force was injured. The Santa Barbara Forest is one of the largest and most popular national forests in California. Its supervisor, C. E. Jordan, had his offices in five rooms on the second floor of the Federal building, located on State Street, the city's main thoroughfare, on which so much damage occurred.

Grain Elevator Management Course Proves Successful

"Much of the success of the short course in grain-elevator management held here (University of Illinois) June 16-20 can be attributed to assistance received from United States Department of Agriculture workers," writes Dean H. W. Mumford to Secretary Jardine. "I feel," he continues, "that you are entitled to know this in view of the interest taken by Acting Secretary Dunlap, by Acting Chief Tenny, and by H. J. Besley, of the Bureau of Agricultural Economics, and others in administrative charge."

The course was the first short course in grain-elevator management offered by the Illinois institution, and it was so well attended and so well received by the country grain trade that plans are already being made for a similar course next year.

Representatives from the research divisions of the Bureau of Agricultural Economics took part on the first two days, representatives of the regulatory work of the grain-futures administration participated on the last day, and representatives of the office of Federal grain supervision of the Bureau of Agricultural Economics were on hand each day, giving addresses and laboratory demonstrations.

Fred G. Smith, in charge of grain inspection efficiency, general field headquarters, Chicago; Philip Rothrock, division supervisor for the Mississippi Valley territory, St. Louis; and Harry R. Rhoades, in charge of the district office at Indianapolis, were the participants from the Federal grain supervision. Mr. Smith spoke on "Official grain inspection under the United States grain standards act," and Mr. Rothrock on "Grain mixing and conditioning." In addition, Mr. Rothrock conducted the session on oats grading and one of the sessions on wheat grading. Mr. Rhoades conducted two sessions on grading, one on wheat and one on corn.

Dr. J. W. T. Duvel, acting in charge of the grain futures administration, and J. M. Mehl, grain exchange supervisor, spoke on "The United States grain futures administration" and "Problems in hedging and speculation," respectively.

W. F. Callander, in charge of the division of crop and livestock estimates, and Dr. O. C. Stine, in charge of the division of statistical and historical research, both of the Bureau of Agricultural Economics, spoke on "Forecasting grain production" and "World trade in grain and grain products," respectively.

Dr. C. L. Stewart, chairman of the college committee which arranged for the short course, was until recently an agricultural economist in the Bureau of Agricultural Economics.

Plans for publishing the papers presented on the formal program are under way, Dean Mumford states.

REAL FARMERS IN DEPARTMENT FILMS

In response to the accusation that the department employs professional actors to take the parts of farmers in its educational motion pictures, the directors who make these movies say that thus far they have not seen city-bred talent that meets the requirements in this regard. There seems to be something about the bearing and gesture of the real farmer which can not successfully be imitated. Portrayals of rural types that are acclaimed as altogether authentic on Broadway are laughed to scorn in the grange hall, where every observer knows precisely how real farmers look and act, hence a peculiar difficulty that must be faced by those who choose the characters for the department's agricultural motion pictures.

The difficulty has been solved in most instances by selecting bona fide farm folks to play the rôles in question. Of the hundreds of characters in the Department of Agriculture films, of which there are now more than 200 in circulation, perhaps 95 per cent were portrayed by real farmers. In the few cases in which professionals have been employed care has been taken to pick professionals who came originally from the country, and who thus have first-hand knowledge of farm manners and customs.

The department authorities have found that it is very important that the character portrayals in their films be true to life and not in any sense "theatrical." Gestures or mannerisms that savor of artificiality are unerringly detected by the audiences before whom these films are shown. To drive home the lessons they are designed to teach they must ring true. Hence the first suggestion given by the department movie director to his player is "just go ahead and act natural." Often, too, this is the last suggestion, for when a player has been found who can be wholly natural the desired effect is easily obtained.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

FARM POPULATION DECLINED IN 1924

The farm population of the United States decreased approximately 182,000 during 1924, according to estimates based on a survey of 25,000 representative farms made recently by the department. This is a drop of 0.6 per cent during that year, the estimated farm population on January 1, 1925, being 31,134,000, compared with 31,316,000 on January 1, 1924. This estimate includes not only the agricultural workers but all men, women, and children living on the farms on that date.

THE PINK BOLLWORM SITUATION

Efforts to eradicate the pink bollworm in the Cotton Belt proper apparently have been successful, according to the department, but a serious danger exists in western Texas and New Mexico, where the nearness to infested lands across the border and other factors have made successful eradication measures impossible. Because of this danger the Federal Horticultural Board of the department recently held a conference at El Paso, Tex., with State officials, planters, and others. In the Big Bend district of western Texas there has been such an increase in infestation that nearly every boll of the 1924 crop contained one or more insects. The department thinks it likely that similar increases in infestation will later be found in other districts in that western region. Because of danger to other parts of the country, the department finds it necessary to take measures against spread of the pest and proposes to further revise Quarantine No. 52 in several important respects.

GRAZING LANDS GIVE WAY TO COTTON

Great-stock ranches which have dominated the South Plains area of the Texas panhandle for many years are being cut up into cotton farms at a rate which bids fair to effect a complete change in the agriculture of the region in a few years, report economists in the department. This area prior to 1890 was in ranches thousands of acres, and sometimes hundred of thousands of acres, in extent. Although cotton was grown there experimentally more than 30 years ago, it is only within the last few years that railway transportation has made cotton farming, and, in fact, any kind of crop

farming, possible in the region. In the last few years, however, cattle and sheep have practically disappeared and farms are springing up everywhere.

NEW LIVESTOCK SANITATION RULING

A decision of far-reaching effect on the livestock industry is contained in a notice which the Bureau of Animal Industry has sent to its inspectors in charge of tuberculosis eradication in all States. In effect it requires a thorough clean-up and disinfection of premises on which tuberculous cattle have been found by official testing before the Government will pay any indemnity for such cattle. The bureau requires its inspectors in charge to certify that "the premises have been properly disinfected and all lawful quarantine regulations have been complied with."

RULE ON LABELING OF FRUIT JUICES

Fruit from which the juice has been abstracted in part should not be labeled "Crushed Fruit" or with other similar designations unless the name is immediately followed by an equally conspicuous declaration that juice has been abstracted, according to a recent ruling by the officials of the Bureau of Chemistry who are charged with the enforcement of the Federal food and drugs act. The ruling states also that sugar and artificial color, when added, should be plainly declared on the label.

REPORT ON WORLD WHEAT CROP

World wheat production this year, outside of Russia, will be about the same as last year's, according to forecasts and estimates received to date by the department. The world supply of wheat, despite low stocks in exporting countries, is also likely to be fairly evenly balanced with the world's available supply last year, due to increased rye crops in Europe, which will reduce somewhat the European demand for wheat, the department says.

ROAD IMPROVEMENT PAYS FOR ITSELF

That main highways—improved—pay for themselves in a remarkably short space of time is proved in a study recently completed by the Bureau of Public Roads. Data collected by the bureau in a survey of highway transportation in Maine indicates that on the basis of present traffic the 300 miles of most heavily traveled road in the State, practically all of which are on the Federal aid highway system, could be improved from an earth-road condition to a condition in which every mile would be sur-

faced with high type pavement and the entire cost of the improvement with interest at 4 per cent would be repaid by the savings in operating costs of passenger cars only in slightly over four years. The use of our main highways has increased to the point where it is a necessity that they be improved to avoid much greater expenditures for gasoline, repairs, and replacement. Traffic on the Maine highways doubled in the period 1916 to 1919, it doubled again from 1919 to 1923, and a careful analysis indicates that it will double again in the period 1924 to 1930. Rapid increase in highway traffic and large possible savings in motor vehicle operation due to the improvement of important roads is a condition common to every State.

The Federal Government is assisting the States in the construction of Federal-aid roads at the rate of eight to ten thousand miles per year. Already 45,150 miles have been completed, including 3,800 reported as completed but not finally inspected.

Plan Economic Studies of Connecticut Tobacco Industry

The agricultural experiment stations at Storrs and New Haven are planning some intensive economic studies of the growing and marketing of Connecticut Valley tobacco, and Jesse W. Tapp, of the Bureau of Agricultural Economics, and secretary of the New England Research Council, is assisting in formulating the plans. It is pointed out that the cigar types of tobacco have not shared in the increase in demand which has enabled the growers in other areas to increase acreage. Connecticut Valley growers are faced with the necessity of reducing acreage and are uncertain as to the enterprises which should be used to take the place of tobacco on some of the land now devoted to tobacco.

The New Haven station plans an intensive study of the soil types of the area and of their adaptation to the production of crops other than tobacco. The Storrs station will undertake exhaustive studies of the demand for cigar tobacco and of the farm management problems in the area relating to the proper selection of enterprises and the most economical methods of tobacco production.

Professors Davis, Waugh, and Hendrickson, of the Storrs station, Doctor Morgan, of the New Haven station, Mr. Southwick, of the Extension Service, and J. W. Tapp spent July 8 traveling over the area and discussing the problems with farmers. Specific plans for studies will be prepared after the problems have been clearly formulated.



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Memorandum of Office of Personnel and Business Administration

Sales of Perishable Products in the Storeroom, Administration Building

P. B. A. CIRCULAR NO. 12—JULY 1, 1925.—Bureaus transmitting perishable products or other material to the storeroom, Administration Building, for sale will hereafter file in the bureau accounting office copies of the covering sales slips. In transmitting to the disbursing clerk the proceeds of such sales the officer in charge of the storeroom will indicate on the transmittal forms the bureaus from which the produce was received (avoiding consolidation on one form of the transactions of different bureaus) and will note also the bureau sales slip numbers and otherwise describe the material sold so as to permit identification in the bureaus.

Carbons of the transmittal forms will be forwarded to the accounting office of the submitting bureau, where they will be audited by comparison with the copies of the sales slips. Discrepancies, if such occur, should be promptly investigated; and failure to receive a remittance carbon within a reasonable time—in any event within one month—after delivery of the material should be made the subject of inquiry.

Remittances by the officer in charge of the storeroom on account of sales of bureau material will hereafter be reported by the disbursing clerk on the abstract of money receipts of the supplying bureau, not, as heretofore, on the abstract of receipts in the Secretary's office.

The bureau check of the transaction will be completed by comparison of the abstract of money receipts with the remittance carbons.

Bureau transmittals, formerly to the office of inspection and at present to the office of personnel and business administration, of carbons of sales slips covering material sent to the storeroom, Administration Building, for disposal will be discontinued.

HELP THE WELFARE ASSOCIATION

Pledge as much as you can afford! Let everyone in the department help! The Welfare Association of the department is now making its annual drive for funds, and all employees are urged to contribute.

Acting Secretary Dunlap, in commending the work of the association and endorsing the present campaign, sent the

following letter to the president of the association:

DEAR MRS. PIERCE:

I understand that the Welfare Association is about to begin its annual campaign for funds, and I trust that it will have the generous support of all employees in the Department of Agriculture. Your annual report indicates that this association has been doing good work, and I hope you will have every success in the approaching campaign.

Sincerely yours,

R. W. DUNLAP,
Acting Secretary.

A report covering the last three years shows an increase in the applications for aid and in the assistance rendered. The association is an extremely useful organization in the department and deserves strong and steady support.

INDEX OF DEPARTMENT PUBLICATIONS

The attention of research workers, students, and scientists in the department is called to the comprehensive and detailed card index of all the publications of the United States Department of Agriculture going back to the beginning of the agricultural work under the Patent Office in 1837. The index is the work of the indexed section of the Office of Publications, but a copy is on file in the main library. It is not known and utilized as much as it should be. Since it is an index it is much more detailed than catalogue entries for department publications which are included in the card catalogue of the library and is a most valuable source of information in regard to the work and publications of the department.

BORDER GAME VIOLATORS CAUGHT

In order to deal with border game violators cooperative arrangements were made last spring between the British Columbia police and Ernest P. Walker, representative of the Biological Survey in Alaska, for joint patrols. Evidence of extensive violations was found and several arrests have been made. One Canadian subject was arrested and tried for illegal trapping and a warrant is now outstanding for another person for trial before the Alaskan courts. As another result of this joint patrol a Canadian native was brought before the United States commissioner at Juneau, where he plead guilty to illegal voting and fishing on the American side. A Canadian native was also found who formerly held a Canadian guide license and who has forfeited his right to it by residence on the American side at the same time that he was using the Canadian license on the Canadian side. On another trip Warden Goddard found a vio-

lator who had recently killed six beavers illegally and took him to Ketchikan. The defendant plead guilty, was fined \$200, and sentenced to 10 days in jail. Violators on both sides are learning that they will no longer be able to operate as formerly.

RELEASE FILM ON ROADBUILDING

"Roads from Surf to Summit," a new motion picture of roadbuilding which was prepared by the office of motion pictures for the Bureau of Public Roads, has just been released by the department. This film shows the economic and scenic values of modern roads in the national forests in the Pacific Northwest and the State of California. The background is entirely scenic and affords to the prospective automobile tourist an excellent conception of the economic resources and hidden scenic treasures in the region. There are beautiful views of snow-capped Mount Rainier, of the Coast Highway along the rugged, rocky, and precipitous coast of Oregon, and of Mount Hood. A section of forest road on the southern slope of the latter mountain completes a 173-mile loop road around it. The picture also shows a section of the paved Columbia River Highway which goes through the river's gorge in the Cascade Mountains. With good roads all beauties of the national forests are accessible to the public.

The picture just released is the thirteenth in the series made by the office of motion pictures cooperating with the Bureau of Public Roads. Of the other 12 films, 5 relate to forest roads—"The road goes through," "Roads to wonderland," "Highroads and skyroads," "Around the West by forest roads," and "Building forest roads"—and 7 deal with road building as follows: "Modern concrete road construction," "Mixed asphalt pavements," "Building bituminous roads," "Brick—from clay to pavement," "What about macadam?", "Granite block paving," and "Tests for better roads."

TO STOCK ALASKA WITH GAME ANIMALS

A bill recently passed by the Territorial Legislature of Alaska provides for the appropriation of \$10,000 for the purpose of stocking Kenai Peninsula and islands in Prince William Sound with elk, and the adoption of a definite and comprehensive program of stocking lands of Alaska with valuable game and land fur-bearing animals. The work has been placed in the hands of the Alaskan Game Commission, appointed last spring by Secretary Jardine. An emergency clause in the act makes the money immediately available.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How much seed subject to the seed importation act is permitted entry into the United States annually?

Answer. The amount of the different kinds of seeds imported varies greatly from year to year, depending on crop and price conditions in the United States and in foreign countries. The importations of red clover seed have varied from less than 1,500,000 pounds in 1923, to nearly 25,000,000 pounds in 1924, and 32,500,000 pounds in 1916. The importations of alfalfa seed have varied from less than 50,000 pounds in 1918, to nearly 19,000,000 pounds in 1920.

Question. What is the amount and purpose of Federal aid to State experiment stations?

Answer. The Hatch Act (March 2, 1887) provided an annual appropriation of \$15,000 to establish in connection with the land-grant college in each State an agricultural experiment station for the purpose of promoting "scientific investigation and experiment respecting the principles and applications of agricultural science." The Adams Act (March 16, 1906) provided an additional \$15,000 annually for each State for "conducting original researches or experiments bearing directly on the agricultural industry of the United States." The Purnell Act (February 24, 1925) gives to each State in addition to the \$30,000 provided by the Hatch and Adams Acts \$20,000 for the year ending June 30, 1926, with an annual increase of \$10,000 until the total fund from this source amounts to \$60,000 a year, for experiments and investigations "bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products * * * and such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life." The total Federal aid to the experiment stations will at maturity of the Purnell Act amount to \$4,320,000 annually.

Question. Has the department established grades for mohair?

Answer. Investigations in connection with the development of mohair grade standards are being conducted by the Bureau of Agricultural Economics. Suggested grades have been formulated and the marketing associations which are using these suggested standards are pleased with the favorable reports re-

ceived from manufacturers and dealers on the grading in accordance with them. The suggested grades are applicable to mohair produced in both the northwestern and southwestern sections of the United States.

Better Husk Development Prevents Damage to Ear Corn

The prevention of damage by weevils to corn in storage is an important problem in the Southern States. Much damage commonly is done in the field before harvest is possible, and the damage continues in storage at all times when the temperature is favorable to the insects. The method formerly recommended for handling corn to reduce damage was to husk the ears in the field and to store it in air-tight bins or cribs where it could be fumigated. This undoubtedly is efficient. It also is expensive, and the danger of fire is considerable when carbon bisulphide is used for fumigating.

A number of years ago the department showed that the weevils were unable to cut through corn husks, although they could eat the hardest rice popcorn without difficulty. The problem accordingly was to produce husk-protected strains that also would be productive. As in most biological problems, the solution was not a simple one. Strains of corn with all husks extending well beyond the tips of the ears were isolated easily by selection within self-fertilized lines. These strains differed, however, not only with respect to the length of the husk projection but also in other husk characters. Each of these characters has its effect on the protection afforded against weevils. Few, smooth, narrow husks offer the least resistance, whereas wider husks that overlap and interlock, fitting tightly into the spaces between the kernels, offer the greatest resistance to weevil attack.

Strains having desirable husk characters have been isolated and crosses between such strains have been found that were at least as productive as the parent variety. Moreover, were it not for holes cut through them by various worms, the husks have been such as to afford almost perfect protection from weevil attack. In extreme cases worm holes are made through the husks of practically all ears. As many of these are found and successfully negotiated by weevils, the main objective of the corn breeder trying for better protection for ear corn in the South is to obtain resistance to worm damage.

Corn ear worms are the most widely spread trouble makers in this regard.

They easily cut through all kinds of husks that have been found so far. These worms feed their way in along the silks and then cut their way out, making the holes through which weevils gain access to the ear. When the husks extend well beyond the tips of the ears, ear worms are more likely to cut their way out before they reach the ear itself. Thus long husk projections tend to lessen ear-worm damage.

On the other hand, with husk projections more than 6 inches long, the silks do not emerge while they are still fully receptive and in some cases do not emerge at all. This causes the ears to fill poorly. There is considerable variation among strains in the length of husk projection that causes poorly filled ears, but there is no present prospect of eliminating ear-worm damage completely by obtaining longer husks.

In the sugar-cane area the sugar-cane moth borer often does great damage to the husks and other parts of the corn plant. In one exceptionally bad attack the husks on practically all plants of several hundred crosses between husk-protected selfed lines were opened by these insects so that weevils could gain access to the ears.

Certain of the crosses in this experiment, however, were distinctly less damaged by the borers than the others. One or both of the parents of such crosses usually came from varieties grown in the sugar-cane areas. There were two of these varieties, each of which was represented in the crosses by a number of selected lines. In general, the presence of any of these lines in a cross was accompanied by less borer damage. Furthermore, there was variation in the amount of apparent resistance offered, which may mean that this tendency may be increased by selection.

North Carolina College of Agriculture held a five-day short course for the 18 local negro demonstration agents of the State during June. The program included lectures and demonstrations by members of the college, station, and extension faculties. Rural social problems, farm management, crop growing and handling, livestock, cooperative marketing, swine and poultry growing, were among the subjects discussed. In addition round-table conferences were held by the agents on problems of agricultural leadership. C. R. Hudson, State agent in charge of negro extension work, was in charge of the short course, assisted by L. E. Hall, negro district agent, and John D. Wray, in charge negro club work. J. B. Pierce, field agent in negro extension work for the department, also took part in the program.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

CARBOHYDRATE INVESTIGATIONS

Carbohydrates constitute one of the most valuable groups of constituents of agricultural crops either when the crop is used directly or when the carbohydrates are extracted or transformed as in the manufacture of sugar, starch, glucose, etc. One of the lines of work in which the Bureau of Chemistry is actively engaged is chemical research on methods of production and uses of cane and beet sugars, sugar-cane sirup and molasses, sorgo sirup, maple sirup and sugar, starches, and starch products, honey, and the rarer sugars. Investigations are also conducted for the purpose of increasing existing knowledge of the carbohydrate constituents of plants. Information thus gained contributes greatly to the development of new or more efficient methods of utilization of plants which contain valuable carbohydrates. These investigations are conducted by the bureau's Carbohydrate Laboratory.

The recovery of sugars from plant juices or extracts is greatly impeded by the constant presence of colloidal plant constituents which by virtue of their colloidal condition retard the crystallization of sugar and also contaminate the crystals. For this reason the crystallization of sugars from plant juices, either in the laboratory or on a commercial scale as in the production of cane or beet sugars, must be preceded by a "clarification" of the juice. In fact, so-called "manufacture" of sugar consists of nothing more than the process of clarifying the plant juice followed by crystallization of the sugar. Carbons and lime (used alone or in conjunction with carbonic acid gas or sulphur fumes) are the "clarifying agents" commonly used in sugar factories. The use of these agents has been developed commercially by rule of thumb methods, but it is now beginning to be recognized that the effect produced consists essentially in the flocculation of the plant colloids of the juice. The Bureau of Chemistry has therefore found it advantageous, in studying these problems, to employ in part the methods of colloid chemistry, using such tools as the ultramicroscope, ultrafilters, etc.

The carbohydrate laboratory is equipped with modern apparatus for investigational work, much of which has been specially designed and built in the department shops. In addition to laboratory apparatus, an extensive semi-indus-

trial installation of sugar and sirup making equipment is in use in the field for trying out new processes during the manufacturing season on a relatively small and inexpensive scale. In actual practice the semi-industrial tryout of a new process is highly desirable before undertaking expensive alterations in existing procedures.

From a technical standpoint the problem of securing the most effective commercial utilization of the sugars and other carbohydrates of plants depends for its solution upon an adequate knowledge of the general chemical composition of the plant. From an economic standpoint a certain flexibility as to methods of utilization is frequently desirable. For instance, when sugar is relatively low in price and cane sirup is high, as was the case last season (and probably will be again next season), it is more profitable to sugar cane growers in the sugar districts to convert a portion of their cane into sirup. However, the only method of making cane sirup which is at present suitable for use in Louisiana sugar houses is that in which sulphur fumes are used for clarifying the juice. This method imparts a peculiar "sulphured" flavor to the sirup, which interferes with the extension of the market outside of Louisiana. A method suitable for producing unsulphured sirup in these sugar houses is therefore required in order to realize the greatest marketing possibilities, and this is a problem upon which the carbohydrate laboratory is working at the present time. The use of a portion of the cane juice in a sugar factory for making sirup may also necessitate some change in the process for making sugar from the remainder of the juice, and may also afford an opportunity for securing a better grade of molasses as a by-product.

The foregoing illustrates the possibility of applying chemical research and chemical technology for the purpose of securing such flexibility in the manner of utilizing a crop as will permit better adaptation to changing economic conditions and markets.

WITH EXTENSION FORCES

AID IN EMERGENCY

The training and practical experience of extension workers in the section of Illinois recently visited by a tornado enabled them to render valuable aid in a time of distressing need. Extracts from the monthly reports of Stella Hutson, home adviser in Williamson County, and Macena Kendall, of Saline County, include descriptions of work done in recent

months not often found in extension records. Miss Hutson says:

"The terrible tornado which swept across the northwest corner of our county on March 18 disorganized the work for this month to some extent. I came in from the eastern part of the county at 20 minutes of 5 in the afternoon, knowing nothing about the storm. I was told that Bush, a small town in the northwest corner of Williamson County, had been completely destroyed. At 5 o'clock I was on my way to Bush with surgical dressings and bandages. The wind was so strong that it was almost impossible to keep the car in the road. I reached Bush just at dark, went at once to Doctor Chaisson, and worked with him among the injured all that night. Our work was mostly among the Italian miners. Many of the women had been terribly bruised when houses had fallen on them. We sewed up wounds and bound up broken limbs. The most seriously injured had by this time been taken to the Herrin hospital.

"The next day I worked in the operating room at the St. Andrews Catholic Hospital in Murphysboro. This was mostly amputation work, as gangrene had set in with many of the cases which had gone without care for about 24 hours. The halls, laundry rooms, and toilet rooms were full of patients. I also worked in the Masonic Hall, but by evening many of the seriously injured had been taken to the hospitals. I had a military pass which was given me by the officers in charge, and I passed through all military lines.

"The suffering and destitute conditions have been distressing. The home bureau women in the rural districts of the county, besides donating food, clothing, bedding, and household furniture, sent dressed chickens to the different hospitals."

Miss Kendall was sent by the Saline County Home Bureau into the Murphysboro district to see what help the organization could give. She was at once given a job in a mess hall and very soon was put in as dietitian to look after the food for the doctors and nurses. This position grew until it included supervising the food for the workers and invalids. She was also asked to make out a system of rations for families of varying sizes who were destitute and in need of help.

The joint board on interstate highways, appointed last February by the Secretary of Agriculture, will meet in Washington on or about August 3 and 4 to reach a final conclusion as to a uniform system of highway marking. Results of the six regional meetings which have been held throughout the country will be reported at this meeting. The maps to be submitted will be coordinated and a final system will be selected.

BRIEF REVIEWS OF NEW BULLETINS

Dry Farming in Southeastern Wyoming. By A. L. Nelson, associate agronomist, Office of Dry-Land Agricultural Investigations, Bureau of Plant Industry. Pp. 20, figs. 10, July, 1925. (Department Bulletin 1315.) Price, 5 cents.

The natural agricultural resources of southeastern Wyoming, according to the report, consist of native grasses, which are well adapted to the production of cattle, sheep, and horses. The dry farmers who have succeeded in making comfortable homes and who continue to receive substantial incomes have made use of the native grasses and increased the carrying capacity of the range by the production of forage crops. Those who have attempted to produce small grains only have in most cases failed. A combination of these two systems will probably result in increased incomes of the dry farmers and greater stability of both ranching and dry farming.

How to Pick Chickens. Issued by the Bureau of Chemistry. Pp. 14, figs. 12, July 8, 1925. (Miscellaneous Circular 42.) Price, 5 cents.

This is a pocket-size edition of 14 pages with an equal number of illustrations showing every step in the process of dry-picking chickens. The illustrations with brief explanatory matter tell the story in a simple and understandable way. Badly picked chickens cause a money loss of 2 to 6 cents a pound. Torn skins, rubbed skins, "burnt" wings and legs, bloody bills, pin feathers that show, and discolored necks are evidences of careless dressing. Careful reading and study of this circular will enable the picker to avoid these faults and turn out a perfectly dressed bird. This circular tells how to "rough" properly. The few feathers, pins, and down remaining should be picked out by the "tipper" or "pinner."

ADDITIONAL PUBLICATIONS

Service and Regulatory Announcements. Bureau of Chemistry. Supplement No. 196. Notices of Judgment. 13251-13300. Pp. 129-153. June 1925. Price, 5 cents.

Bureau of Agricultural Economics. No. 91. Regulations of the Secretary of Agriculture under the United States Cotton Futures Act. Pp. 1-28. Price, 5 cents.

Journal of Agricultural Research. Vol. 30, No. 8, April 15, 1925. Contents: The Use of Liability Ratings in Planning Forest Fire Protection. (P. 12.) By W. N. Spurr. *Ascaridia*, an Intestinal Parasite of Chickens in the United States. (A-89.) By Benjamin Schwartz.—Some Laboratory Methods for Parasitological Investigations. (A-96.) By Maurice C. Hall and Eloise B. Crum.—Some Lepidopterous Larvae Resembling the European Corn Borer. (K-134.) By William O. Ellis. Pp. 693-792, pls. 2, figs. 54. Price, 20 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 24 semi-monthly, and volume 25 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semi-monthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

Experiment Station Record. Vol. 52, No. 7. May, 1925. Pp. 601-700. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review. Vol. 53, No. 4. April, 1925. Pp. 141-185, pl. 1, figs. 9, charts 14. Special articles: The tornadoes of March 18, 1925. By A. J. Henry.—The tornado of April 5, 1925, near Miami, Fla. By R. W. Gray.—Ocean temperatures across the Equator. By W. J. Humphreys.—Effect of local smoke on visibility and solar radiation intensities. By I. F. Hand.—Seasonal prediction in California and its variability. By B. M. Varney.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, during the period from January 1 to March 31, 1923 (S. P. I. Nos. 56145 to 56790). Pp. 42, pls. 4, June, 1925. (Inventory No. 74.) Price, 10 cents.

Soil Survey of Greene County, Pennsylvania. By S. O. Perkins, and M. W. Senstius, of the United States Department of Agriculture, and A. L. Patrick and Fred G. Merkle, of the Pennsylvania State College. Pp. 28, 4 pl. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the experiment stations during the week of July 6-11, 1925. Copies of these publications may be obtained from the stations issuing them.

The principles and practice of sun-drying fruit. A. W. Christie and L. C. Barnard. (California Sta. Bul. 388, pp. 60, figs. 22, May, 1925.)

Berseem or Egyptian clover (*Trifolium alexandrinum*). A preliminary report. P. J. Kennedy and W. W. Mackie. (California Sta. Bul. 389, pp. 32, figs. 11, June, 1925.)

Sweet potato production in California. J. T. Rosa. (California Sta. Circ. 285, pp. 29, figs. 15, May, 1925.)

Milk houses for California dairies. H. L. Belton and J. D. Long. (California Sta. Circ. 286, pp. 37, figs. 19, May, 1925.)

Potato production in California. J. T. Rosa. (California Sta. Circ. 287, pp. 44, figs. 16, May, 1925.)

The Angler pea (*Lathyrus tingitanus*). P. B. Kennedy. (California Sta. Circ. 290, pp. 15, figs. 10, June, 1925.)

Farming practices for the cut-over lands of northern Idaho. G. R. McDoyle and J. H. Christ. (Idaho Sta. Bul. 136, pp. 23, figs. 2, Feb., 1925.)

Factors influencing lodging in corn. B. Koehler, G. H. Dungan, and J. R. Holbert. (Illinois Sta. Bul. 266, pp. 309-371, figs. 25, May, 1925.)

The sunflower as a silage crop: Composition and yield at different stages of maturity. W. L. Gains and W. B. Nevens. (Illinois Sta. Bul. 268, pp. 405-455, figs. 29, June, 1925.)

Insect feeding on truck and garden crops, and how to control them. C. C. Compton. (Illinois Sta. Circ. 297, pp. 46, figs. 18, June, 1925.)

Soybeans for Iowa. H. D. Hughes and F. S. Wilkins. (Iowa Sta. Bul. 228, pp. 16, figs. 7, May, 1925.)

Transmissibility and pathological effects of the mosaic disease. O. H. Elmer. (Iowa Sta. Research Bul. 82, pp. 37-91, figs. 2, Feb., 1925.)

Raising orphan pigs—II. Modifying cows' whole milk with sugar and cream; heat treatment of cows' whole milk; vitamin modification of cows' whole milk. J. M. Evard, Q. W. Wallace, and G. V. Glatfelter. (Iowa Sta. Research Bul. 83, pp. 92-134, figs. 3, May, 1925.)

Basiporiopsis dry rot of corn. L. W. Durrell. (Iowa Sta. Research Bul. 84, pp. 137-160, figs. 12, May, 1925.)

Studies on starters: Part I—Influence on starters of air supply, temperature of incubation, and rate of ripening. P. Toens and B. W. Hammer. Part II—Acetone in distillates from starters and from milk. F. F. Sherwood and B. W. Hammer. (Iowa Sta. Research Bul. 85, pp. 161-179, May, 1925.)

Experiments relating to the time of cutting alfalfa. S. C. Salmon, C. O. Swanson, and C. W. McCampbell. (Kansas Sta. Tech. Bul. 15, pp. 50, figs. 3, Apr., 1925.)

Annual report of the agricultural experiment stations of Louisiana State University and Agricultural and Mechanical College for 1924. W. R. Dodson et al. pp. 55.

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and E. H. Wheeler. (Massachusetts Sta. Met. Bul. 438, pp. 4, June, 1925.)

The cherry leaf-beetle. R. H. Pettit. (Michigan Sta. Circ. 68, pp. 2, fig. 1, June, 1925.)

Orchard cover crops. F. C. Bradford. (Michigan Sta. Circ. 69, pp. 4, June, 1925.)

I. Tobacco resistant to black root-rot in Pennsylvania. II. A method of eliminating experimental error in comparative field tests. C. R. Orton and O. Olson. (Pennsylvania Sta. Bul. 193, pp. 15, figs. 5, Mar., 1925.)

Progress report on studies on boll weevil control under South Carolina conditions. G. M. Armstrong, R. W. Moreland, and R. C. Gaines. (South Carolina Sta. Bul. 223, pp. 64, figs. 25, June, 1925.)

Articles by Department Workers in Current Publications

Boyce, J. S. (Plant Industry). Status of forest diseases in the Pacific coast. Australian Forestry Journal, vol. 8, pp. 101-103, April, 1925.

Brown, N. A. (Plant Industry). A new bacterial disease of tomato fruits. Science, vol. 62, pp. 12-13, July 3, 1925.

Cochran, L. C. (Biological Survey). Killing plants with calcium cyanide. Washington Co-operative Egg and Poultry Association Journal, the "Washcoegg," vol. 3, no. 3, p. 7, July 4, 1925.

Hogentogler, H. A. (Public Roads). Reinforced concrete pavement survey. Georgia Highways, vol. 3, p. 16, May, 1925.

Jardine, W. M. (Secretary). The public and highway transportation. Municipal and County Engineering, vol. 68, pp. 284-288, June, 1925.

Excerpts from the Wendover address. Nevada Highway News, vol. 5, p. 6-8, June 22, 1925.

Keenen, G. L., and R. M. Hann (Chemistry). The optical properties of conline hydrochloride. J. Am. Chem. Soc., vol. 47, no. 7, July, 1925.

Ladd, George E. (Public Roads). Rhythmic corrugations in gravel roads. Georgia Highways, vol. 3, pp. 8-10, May, 1925.

Malloch, J. R. (Biological Survey). Synopsis of New World flies of the genus *Sphaerocera* (Diptera, Borboridae). Proceedings of the Entomological Society of Washington, vol. 27, no. 6, pp. 117-123, June, 1925.

McAtee, W. L. (Biological Survey). Birds as enemies of rice. The Auk, vol. 42, no. 3, p. 464, July, 1925.

A good word for the starling. The Auk, vol. 42, no. 3, p. 464, July, 1925.

Birds destroying corn borers in winter. The Auk, vol. 42, no. 3, p. 464, July, 1925.

Bird introductions in Hawaii. The Auk, vol. 42, no. 3, pp. 464-465, July, 1925.

Falkin, S., and H. Wales (Chemistry). Azo color from aldehyde of pecan root and their identification by means of the spectroscopy. J. Am. Chem. Soc., vol. 47, no. 7, July, 1925.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Hendrick, James. *Agricultural studies* (First series). Aberdeen, 1924. (Aberdeen university studies: no. 92.)

POULTRY

Robinson, J. H. *Principles and practice of poultry culture*. Dayton, O., Reliable poultry journal publishing company, 1925.

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Card, F. W. *Bush-fruits*. New ed. New York, Macmillan, 1925.

COTTON

Darby, W. D. *Cotton the universal fiber*. New York, Dry goods economist, 1924.

ENGINEERING

Kelker, DeLew & co., Chicago. *Report and recommendations on a comprehensive rapid transit plan for the city and county of Los Angeles*. Los Angeles, Neuner corporation, 1925.

King, A. G. *Heating of residences and small buildings*. Chicago, Domestic engineering publications, 1924.

HOME ECONOMICS

Child, Mrs. G. B. *The efficient kitchen*. New York, McBride, 1925.

CLOTHING

Ringo, F. J. *Dresses*. Chicago, A. W. Shaw, 1925.

PHYSICS

Bragg, Sir W. H. *Concerning the nature of things*. London, G. Bell and sons, 1925.

CHEMISTRY

Findlay, Alexander. *Physical chemistry for students of medicine*. London, Longmans, Green, 1924.

Findlay, Alexander. *Practical physical chemistry*. 4th ed. London, Longmans, Green, 1923.

Harper, Harry. *Introduction to textile chemistry*. London, Macmillan, 1921.

PHYSIOLOGY AND NUTRITION

Armsby, H. P., and Moulton, C. R. *The animal as a converter of matter and energy*. New York, Chemical catalog company, 1925.

Mellanby, Edward. *Experimental rickets, the effect of cereals and their interaction with other factors of diet and environment in producing rickets*. London, 1925. (Medical research council. (Gt. Brit.). Special report series no. 93.)

Stiles, P. G. *Nutritional physiology*. 5th ed. Philadelphia, W. B. Saunders, 1924.

BOTANY

Trelease, William. *Winter botany*. 2d ed. Urbana, Author, 1925.

Molliard, Marin. *Nutrition de la plante*. v. 1-3. Paris, G. Doin, 1921-23.

ZOOLOGY

Alabama. Dept. of game and fish. *Some birds, game, and fish of Alabama*. Montgomery, 1925.

Baker, E. C. S. *A hand-list of genera and species of birds of the Indian empire*. Bombay, Bombay natural history society, 1923.

Barton, F. T. *Pheasants in covert and aviary*. London, J. Long, 1912.

Dixon, Charles. *Our rarer birds*. London, R. Bentley, 1888.

Lenz, H. O. *Zoologie der alten Griechen und Römer*. Gotha, Becker'sche buchhandlung, 1856.

ECONOMICS AND STATISTICS

Filipetti, George. *The wholesale markets in New York and its environs*. New York, 1925. (League plan of New York and its environs. Economic and industrial survey. Economic series, monograph no. 11.)

Fossum, P. R. *The agrarian movement in North Dakota*. Baltimore, 1925. (Johns Hopkins university studies in historical and political science. ser. 43, no. 1.)

Goldenweiser, E. A. *Federal reserve system in operation*. New York, McGraw-Hill, 1925.

Kock, M. H. de. *Selected subjects in the economic history of South Africa*. Cape Town, Juta & co., 1924.

Poland. Główny urząd statystyczny. *Recensement de la population et des animaux domestiques du 30 septembre 1921. Résultats provisoires*. Varsovie, 1923.

Trades union congress. *British delegation to Russia and Caucasia*. Russia: the official report. London, 1925.

White, Percival. *Market analysis*. Ed. 2. New York, McGraw-Hill, 1925.

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TAKE YOUR VITAMINS IN FOODS NOT DRUGS

(Continued from page 1)

chiefly on polished rice. Removal of the germ and seed coats or bran of cereals takes away practically all of the vitamins. Consequently, polished rice, patent white flour, and degerminated corn meal are practically devoid of vitamins.

Vitamin C is sometimes known as the "antiscorvy vitamin," because a lack of it in the diet causes scurvy, a disease which has been prevalent among sailors, soldiers, explorers, and others compelled to live for long periods on dried and preserved foods.

Even in the late World War, Wilcox states, there were more than 11,000 cases of scurvy in the British colonial troops in Mesopotamia during the last half of 1916. Farm animals are not very susceptible to scurvy and it is considered that chickens and pigs are not harmed by a lack of vitamin C in their diet. The best sources of vitamin C are lemons, oranges, tomatoes, cabbage, lettuce, spinach, green beans and peas, and turnips. Most green vegetables, fruits, roots, and tubers contain vitamin C in varying quantities. Meat, excepting the internal organs, is a poor source. It has been reported that oysters contain it in abundance. Milk contains it to some extent but is an uncertain source. This vitamin is easily destroyed by the processes used in the preparation of many food products. Orange juice or tomato juice is sometimes given to babies reared on artificially prepared food as a precaution against scurvy.

Rickets Follows Lack of Vitamin D

Vitamin D seems to control to a large extent the utilization of lime and phos-

phorus in the formation of bone by the animal organism. Its absence in the diet will cause rickets, a disease characterized by enlargement of the joints, softening of the bones and subsequent bending. Hess states that "Rickets is the most common nutritional disease occurring among children of the temperate zone, fully three-fourths of the infants in the great cities, such as New York, showing rachitic signs in some degree." This disease can be prevented by a proper diet. It can also be prevented or cured by administering cod liver oil, which contains vitamin D in abundance, or by exposure to the ultra-violet rays of the sunlight or mercury lamp if the diet contains the other necessary food elements in adequate quantity. This vitamin has been found in egg yolk and to some extent in milk. Coconut oil contains it in a slight amount. As yet but little has been learned of the general distribution of vitamin D in the plant world.

Vitamin E Essential to Reproduction

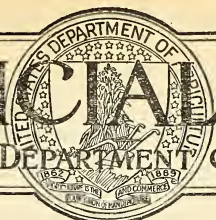
Vitamin E, the antisterility vitamin, was originally referred to as vitamin X, because of the uncertainty as to whether or not it should be classed as a vitamin. Most of the knowledge concerning it has been obtained within the last two years. It has been shown that rats reared on synthetic food mixtures containing fat, carbohydrate, protein, salts, and vitamins A and B, grow well and have every appearance of health, but exhibit complete sterility, affecting both males and females. When small quantities of natural food stuff were added to the ration of these same rats, there resulted in many cases normal sized litters of vigorous young. An excess of Vitamin E can not increase fertility beyond normal limits.

REPORT ON USE OF MILK IN BOSTON

"Some Facts About the Use of Milk in Metropolitan Boston" is the title of a recent mimeographed report issued by the Division of Markets of the Massachusetts Department of Agriculture in co-operation with the Bureau of Agricultural Economics of the United States Department of Agriculture. The study was made by W. W. Michaud and Jesse W. Tapp, of the Bureau of Agricultural Economics and the New England Research Council, and Hall B. Carpenter, of the Massachusetts Department of Agriculture. Changes in the use of milk from 1922 to 1925, seasonal variations in the use of milk in restaurants and in the sales of milk by dealers, and the use of milk in Boston restaurants are considered.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. IV

WASHINGTON, D. C., JULY 29, 1925

No. 30

COOPERATIVES NEED INFORMED LEADERS

Secretary Emphasizes Influence Upon Production, Marketing, Credit, and Rural Life

The first summer session of the American Institute of Cooperation opened Monday, July 20, at the University of Pennsylvania, Philadelphia. This institute makes possible for the first time in the United States the intensive treatment of the history, principles, and practices of the cooperative movement by a distinguished group of authorities.

"An institute of this kind is more than a school—more than a gathering of students and teachers," said Secretary of Agriculture Jardine, speaking at the opening session. "It is unique in that it brings together members, employees, and officers of cooperative associations; teachers, business men, bankers, public officials and research workers for the purpose of pooling their experience and ideas. The institute, therefore, is not only a school but a workshop in which the structure and practices of our cooperative organizations may be repaired, or rebuilt where rebuilding is necessary. Carrying the analogy a little further, the institute may be compared to the designing room of an architect. Some sound plans for the cooperatives of the future should develop out of the discussions of this group.

Have 2,000,000 Members

"The institute has brought together a group of men to consider a movement which numbers now 2,000,000 members. The business transacted by cooperative buying and selling organizations will be, conservatively, \$2,500,000,000 during 1925, approximately one-fifth of the total agricultural business. * * *

"The cooperative associations must assume a large share of the responsibility of maintaining stable agricultural conditions. Consequently not only the success

of their organizations, but to a large degree the prosperity of agriculture, depend on the ability of the leaders in cooperation, their honesty and their broad understanding of economic conditions affecting agriculture.

"Qualifications for leadership include more than an intimate knowledge of the problems of a single State, or of one agricultural industry. A broad outlook and appreciation of the problems of other producers and an understanding of the relation of these problems to our own are also essential. * * *

"The leaders in the cooperative movement—the directors, officers, and managers of the more than 12,000 cooperative associations in the United States, particularly—are trustees for at least 2,000,000 farmers who are members of these organizations. This means that upward of 10,000,000 people—farm men, women, and children—depend upon the honesty and efficiency with which the cooperative associations are managed, for the returns which they will receive for their year's labor. Surely this is a challenge that will bring out the best and highest type of agricultural leadership.

Farmers Must Select Capable Managers

"I do not mean to imply that the responsibility of directing the cooperative associations rests solely with the leaders. The farmer who invests his capital in a cooperative marketing association and entrusts to it products representing a further investment of capital and labor, has the responsibility of selecting men capable of managing his business efficiently. The fundamentals essential for success in cooperation, after all, include an informed, progressive farm population. * * *

"The failures of cooperative associations, although the proportion of failures probably has been no greater than in other business enterprises, point to the need for a study of business methods. We find that generally cooperative associations are wrecked because of business mistakes—the same mistakes that have wrecked business concerns for hundreds of years. Insufficient capital, an insuffi-

(Continued on page 7.)

COMPTROLLER RULES TO FIELD QUARTERS

Renders Decision Affecting Many Department Workers After June 30, 1926

In a decision under date of July 16, 1925, the Comptroller General of the United States held that in the absence of express statutory authority employees in the field service may not be furnished any item of quarters, maintenance, or equipment for personal use, in addition to the compensation properly payable for the position, after June 30, 1926. No objection will be raised, however, prior to this date to contracting for personal services in the field partly on the basis of quarters or equipped furnished for personal use by the Government.

This decision further requires that, effective August 1, 1925, necessary adjustments be made in the cash salary of each field position carrying any item of quarters, maintenance, or equipment furnished in kind, so that the value of such allowances when added to the cash salary will give an amount which will correspond to one of the tentative rates established for field positions. Since careful consideration was given to the value of quarters or similar items when the adjustment was made in field salaries on July 1, 1924, no reductions in the present cash salary of field employees of the department appear to be necessary within the current fiscal year.

No Specific Statute Makes Provisions

In his opinion the Comptroller General said in part:

"In the audit of accounts of disbursing officers of the bureaus or departments having a field personnel there is for consideration whether the existing practice in certain bureaus and offices of providing field employees with quarters, heat and light, fuel and household furnishings, and equipment for personal use in addition to their cash salary is

authorized, in the absence of specific statute so providing.

"For the purpose of illustration, particular reference may be made to the Weather Bureau, Department of Agriculture, which furnishes living quarters, heat, and light for observers and their families in places where they have no Government-owned buildings; to the Bureau of Animal Industry and the Bureau of Plant Industry, Department of Agriculture, which furnish dwellings and heat for superintendents of field stations; and to the Forest Service, Department of Agriculture, which provides by regulations for furnishing employees cooking stoves, kitchen tables, cupboards, garbage cans, etc. It is understood also that a similar practice prevails in certain field services of the Department of the Interior and Department of Commerce.

"Apparently the furnishing of these items of subsistence or maintenance is controlled by regulations in certain offices, while in other offices it is a matter of practice only. * * *

Extra Allowance Contrary to Law

After quoting from various acts those sections applying in these cases the comptroller continues:

"These various statutory provisions justify the conclusion that Congress does not intend civilian employees of the Government in the field to be furnished any item of quarters, maintenance, or equipment for personal use which would constitute in effect the furnishing of an extra allowance in contravention of the provisions of section 1765, Revised Statutes, in addition to the compensation properly payable for the position, unless specifically so provided by law, and then only by reducing the amount of cash salary paid to an amount which, together with the cash value of the quarters, maintenance, or equipment furnished equals the proper rate of pay for the position.

"In complying with the requirements of the act of December 6, 1924, as extended until June 30, 1926, by the act of January 22, 1925, the administrative office will be required, in order to adjust the rates of compensation for field position 'to correspond, so far as may be practicable, to the rates established by the Classification Act of 1923 for positions in the departmental services in the District of Columbia,' to make necessary adjustments in the cash salary of field positions carrying any item of quarters, maintenance, or equipment furnished in kind effective with the pay period beginning subsequent to the date of this decision.

Decision Applicable After June 30, 1926

"In view of the long-standing practice, no objection will be raised prior to June

30, 1926, to contracting for personal services in the field partly on the basis of quarters, maintenance, or equipment furnished for personal use by the Government, but if identical or similar provisions of law to those herein set forth are enacted for the fiscal year 1927, and in the absence of express statutory authority therefor, the practice must be discontinued June 30, 1926, and thereafter compensation paid solely on a cash basis."

Secretary, After Tour, Calls Agriculture Safely Convalescent

Secretary Jardine was greatly encouraged in what he saw during his eight weeks' trip through the agricultural West. At a newspaper conference last Wednesday the Secretary reviewed the agricultural situation as he had found it on his extensive tour and as he had discussed it in conferring with farm leaders in various sections.

"In this season, for the first time in six years," said Secretary Jardine, "a stable program of production has been possible, unhandicapped by menacing carry-overs. Over the country as a whole the outlook is for as good or better incomes than last year and the sentiment is one of moderate optimism. I found farmers greatly encouraged in practically every section of the country. I visited.

"Conditions in the Corn Belt are reversed from what they were a year ago, when hogs were still cheap and corn a poor and expensive crop. Hog prices have advanced materially since last summer and the prospects now indicate a heavy corn crop. The average cost of packer and shipper droves of hogs at Chicago last week was \$13.69 a hundredweight, compared with \$7.46 for the same period last year. Price ratios are now such as to stimulate feeding of livestock. These conditions afford a basis for the return of some degree of prosperity in the Corn Belt. The balance is thus in favor of a section of the country which has been one of the greatest sufferers since the war period.

"The wheat situation is similarly but less fortunately reversed from a year ago. Last year we had a splendid wheat crop while the rest of the world did not. This season our winter wheat crop is apparently 185,000,000 bushels or more short of last year, while the foreign crop is larger than it was in 1924. My observations convince me, however, that there will be an excellent outturn of spring wheat. That will mean much to the northern wheat States, particularly as the price prospect is fairly good.

"In the far West, I found the sheep industry prosperous and still expanding. The cattle industry is still in distress. I noted an unrecurrent of feeling, however, that the turning point has been passed and that cattle prices are in for some years of slow but certain improvement. I see concrete evidence of improvement in the fact that choice steers last week in Chicago brought \$13.56 compared with \$10.70 for the same period a year ago.

"Conditions on the Pacific coast impressed me as reasonably stable. The general sentiment is optimistic. The coast has been confronted by the greatest marketing problem of any agricultural region, but has met the problem effectively through efficient and effective cooperative organizations.

"Reports gathered by the Department of Agriculture and submitted to me on my return indicate that the South is growing apparently the largest acreage of cotton in its history. The crop has done well, generally speaking, except in the drouth-stricken territory of the Southwest. Indications are for a large crop and a favorable income in the Cotton Belt as a whole.

"There are certain dark spots in the general agricultural picture, it is true. The Southwest is struggling under prolonged and serious drouth. The East does not show marked improvement. This region was hit last year by low prices for potatoes, hay, and other important crops, and the dairy industry has had economic difficulties.

"On the whole, however, I see stronger evidence of the approach of good times for agriculture than I have seen since 1920. One indication of this is the index of purchasing power of farm products, which is now about 90 per cent of what it was before the war, the level of this summer being the highest since 1920.

"Moreover, I find an evident return of confidence. Farmers are getting out of the shadow of bankruptcy. Farms are selling once more. Long-standing debts are being liquidated. In short, agriculture appears to be gradually getting its house in order again after the post-war disruption."

Fourteen deer, captured and transported under funds appropriated by the 1923 session of the Territorial Legislature of Alaska, were released recently in the Kodiak region. The Kodiak people were very much interested in the work and were highly pleased when the deer were liberated in their region. The release of deer there, of which this is the first installment, marks the beginning of work along that line under the supervision of the Alaskan Game Commission.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

AGRICULTURAL INCOME SHOWS INCREASE

Farmers received a larger gross income from agricultural production during the year ended June 30, 1925, than in any other year since 1921, according to the department. Estimates place the gross income at \$12,136,000,000, compared with \$11,288,000,000 during the year ended June 30, 1924. This gross income is the value of production less feed, seed, and waste. The increased value, about 7½ per cent, was due almost wholly to higher returns from grain and meat animals, particularly wheat and hogs.

FEWER HIRED LABORERS ON FARMS

Analysis of a survey of farm population made by the department shows that on January 1, 1925, there were approximately 109,000 fewer hired farm laborers on farms than on January 1, 1924. This is a decrease of 3.4 per cent during 1924. There were 3,085,000 farm laborers on farms January 1, 1925, compared with 3,194,000 January 1, 1924. These figures apply only to hired farm laborers who resided on farms for a period of at least 30 days. They do not take into account farm laborers who resided on farms less than 30 days during 1924, or laborers who regularly lodged off the farm.

CONTAINER INDUSTRY SURVEYED

The tremendous development of the industry of manufacturing boxes, baskets, and crates in which to ship fruits and vegetables is brought out in a survey by the department which shows that more than 500,000,000 berry boxes, 30,000,000 round stave baskets, 30,000,000 hampers, and millions of Climax baskets, till baskets, market baskets, crates, and boxes are used annually for this purpose.

PREVENT SUGARING OF SORGHUM SIRUP

Some varieties of sorghum yield sirup that sugars heavily when evaporated to the desired body or density. When this happens the Bureau of Chemistry suggests that the trouble may be overcome in making up subsequent lots of sirup from the same variety of cane by use of the "invertase process." Invertase is made from yeast and is not a dangerous chemical. The addition of a very small quantity of this yeast extract to the sirup during the process of manu-

facture converts a portion of the sugar that crystallizes easily into sugar that is just as sweet and just as wholesome but which does not have the property of sugaring so readily.

RECORD WHEAT ACREAGE IN ARGENTINA

The wheat acreage of Argentina for 1925-26 is larger than that of any preceding year, according to a cablegram received by the department from the International Institute of Agriculture at Rome. The acreage sown is estimated at 18,500,000 acres compared with the harvested area of 15,977,000 acres in 1924-25.

EXTENSION NEWS ITEMS

CHANGES IN PERSONNEL

Kansas.—D. Z. McCormick has been appointed county agent for Geary County. Arthur L. Meyers has resigned as county agent for Marion County and has been succeeded by Earl C. Smith.

Ohio.—Bruce Tom has been appointed specialist in rural sociology, effective August 1.

Rhode Island.—George E. Adams, dean of agriculture, Rhode Island State College, Kingston, has been appointed director of the Rhode Island extension service, effective July 1, to succeed A. E. Stene, who has resigned to take up horticultural research work at the experiment station.

Vermont.—Floyd Mayo Callward has been appointed State extension forester. Helen Shaw Burdick has been appointed county club agent.

FORTHCOMING CONFERENCES

The annual summer conference of members of the Alabama Extension Service will be held in Montgomery, July 27-29, and the State Farm Bureau Federation will hold its annual meeting at the same time and place.

The fourth annual farmers' and fruit growers' week conducted by the Florida Agricultural Extension Service will be held at the university August 10 to 15. The program, which will include agricultural, horticultural, livestock, and home economics subjects, will be carried out by the divisions of the agricultural college, State plant board, located at Gainesville, and the home economics department of the extension service, located at Tallahassee. The dormitories and dining hall of the university will be utilized by the visitors at an actual cost of \$1.25 per day. Entertainment and recreation will be a special feature. The annual meeting of county and home dem-

onstrator agents is scheduled for the week beginning September 21. It is proposed to hold a joint meeting for county and home demonstration agents at the University of Florida, and sectional meetings for home demonstration agents at the State College for Women, Tallahassee.

The annual conference of Ohio extension workers has been scheduled for October 20 to 24.

NEW LEGISLATION

The Ohio State Legislature passed a new budget law last winter which requires all counties and other political subdivisions to prepare budgets. These budgets, which are required to be made up some time before January 1, each year, are carefully reviewed and gone over by the county budget commission.

TO ERECT TERMITE-PROOF BUILDING

Plans are being perfected by the Bureau of Entomology, in cooperation with the American Wood Preservers' Association, to have a termite-proof building erected at Ancon, Canal Zone. This building is to be a model for frame structures in the Tropics and, among other features, will embody concrete foundations and metal termite shields. All woodwork and furniture will be treated with various chemical preservatives under the direction of the bureau. It is hoped that the materials will be ready for shipment to the Canal Zone in the fall.

Termite damage is widespread in the Tropics, especially in Panama and the Canal Zone. The insects damage the woodwork of buildings, books and furniture, lead-sheathed cables—thereby rendering the telephone service unsatisfactory—electrical insulation by eating the cloth, and rubber insulation and waterproofed braid in lamp posts—thus impairing the electrical service. They also feed on living fruit, coconut and other trees, and on growing crops. Termites infest sugar cane to such an extent that they are considered the most serious sugar-cane pest in Panama. In consideration of this damage by termites, immediate and effective means of control are necessary and the results of this experiment will be eagerly watched.

H. Caracciola, of Trinidad, recently called at the department to become acquainted with some of the workers in the Bureau of Entomology and to arrange exchanges of insects. Mr. Caracciola has corresponded with the department for 35 years and knew many of the older entomologists.



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BEST BOOKS FOR FARMERS

A list of 10 of the best books on agriculture has been compiled by C. S. Hean, librarian, Wisconsin College of Agriculture, as an aid to those who desire a few general books covering a wide range of subjects.

"These books should be found in every farmer's library," urges Mr. Hean, "as they deal with the fundamentals of agriculture, and the basic knowledge is necessary."

Here is the list: Craig's "Common Diseases of Farm Animals"; Hood, "Farm Horticulture"; Henry & Morrison, "Feeds and Feeding"; Lewis, "Productive Poultry Husbandry"; Montgomery, "Productive Farm Crops"; Plumb, "Beginnings in Animal Husbandry"; Ramsower, "Equipment for the Farm"; Weir, "Productive Soils"; Warren, "Farm Management"; and Woll, "Handbook for Farmers and Dairymen."

VALUABLE INSECT COLLECTION SECURED

The National Museum is soon to receive an extensive collection of butterflies and moths. This collection has been purchased through the activities of Dr. William Schaus, an entomologist in the taxonomic division of the Bureau of Entomology, who has secured by private subscription \$50,000 with which to buy this collection. The collection is of world-wide fame and has been formed by M. Paul Dognin, a well-known French lepidopterist, through 40 years of active work. It contains about 90,000 specimens of butterflies and moths and includes the original specimens from which 3,300 species have been described. Most of the specimens in the collection come from South America and Central America. As Mr. Dognin is now an old man, he wished before it was time to retire completely to place his valuable collection in some institution where it would be well cared for and be of great

service to science. Because of his friendship for Doctor Schaus and because the collection is composed largely of American forms, Mr. Dognin gave the National Museum until March, 1925, to provide funds with which to purchase the collection. Doctor Schaus, realizing the value of this collection and the great assistance it would be to the bureau specialists in their work of determining exotic pests likely to be introduced into the United States, began in the autumn of 1924, an active canvass to obtain the necessary money. His efforts have been crowned with success and he has recently gone to France to arrange for the packing and shipment of the collection to the United States. This is the first time in the history of American entomology that such a valuable collection has been purchased by private subscription. Considerable credit is due Doctor Schaus for his energy and perseverance in raising the necessary funds.

A NEW DEPARTMENT

A new department, "New Ideas and Discoveries," begins in this issue of "The Official Record." In it will be published signed articles by persons who have done important pieces of work. The field will be limited to such ideas and discoveries as have a present practical application, and the language will be no more technical than necessary.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel and business administration, the following employees of the department were retired recently:

Miss Emma C. Herrick, an under clerk in the Bureau of Plant Industry, was retired on account of age on June 7, 1925. Miss Herrick commenced service in this department as a laborer in the seed division and had served continuously since December 1, 1892, a period of 32 years 6 months and 7 days. Her last assignment was in the office of horticultural and pomological investigations tabulating and arranging for study phenological data relating to horticulture and pomology, a duty which caused the recommendation for her continuance in the service for a period of two years beyond the usual retirement age.

Mr. Christian Hiller, a lay inspector in the Bureau of Animal Industry at Milwaukee, Wis., was retired on account of age on May 6, 1925. He was born on May 7, 1855, was 70 years of age at date of retirement, and had served continuously in this department since December 18, 1893, a period of 31 years 4 months and 20 days.

Mr. James O'Hara, a senior lay inspector in the Bureau of Animal Industry at Kansas City, Kans., was retired

on account of total disability, effective February 2, 1925. He was born on August 28, 1857, was more than 67 years of age at date of retirement, and had served continuously in this department since September 8, 1906, a period of 18 years 4 months and 25 days.

Mr. Joseph Sullivan, a senior lay inspector in the Bureau of Animal Industry at the National Stockyards, Illinois, was retired on account of total disability, effective July 1, 1924, his case having been pending final judgment for several months. Mr. Sullivan was born on March 18, 1864, was more than 60 years of age at date of retirement, and served continuously in this department since February 15, 1895, a period of 29 years 4 months and 16 days.

WOOD UTILIZATION COURSES OFFERED

For the benefit of the lumber manufacturing and wood-using industries the Forest Products Laboratory at Madison, Wis., will present another group of instructional courses in September. Each course requires the full time of the men attending, but the schedule has been so arranged that the glue and the kiln drying or the glue and the box courses may be taken successively. Attendance in each course is limited to 18 to provide for personal instruction and discussion of the special problems of the individuals attending. Applications will be accepted in the order of their receipt. The courses to be given are as follows: Gluing of wood, September 14 to 19 (cooperative fee, \$100); kiln drying of lumber, September 21 to October 2 (cooperative fee, \$150); boxing and crating, September 21 to 26 (cooperative fee, \$100). Further information may be obtained from the Director, Forest Products Laboratory, Madison, Wis.

BUYS BUFFALO FOR PRIVATE ESTATE

A 2-year-old buffalo cow was shipped by the Biological Survey in May from the Montana National Bison Range to a purchaser at Beverly, Mass., who is establishing a game sanctuary on his estate. A year ago the owner of the estate obtained a bull buffalo from the Yellowstone National Park Service. The Biological Survey has arranged to ship him a pair of elk next winter when it is possible to capture the animals. Many visitors come to this game sanctuary at Beverly, and a troop of Boy Scouts makes its headquarters near by.

Among the laws enacted by the Florida Legislature, recently adjourned, was one appropriating \$5,000 to defray the cost of cooperating in soil-survey work with the Bureau of Soils during the ensuing year.

NEW IDEAS AND DISCOVERIES

Stem-Borne Rudimentary Roots of Apple— Frequently Confused with Crown Gall

Although there are a few references in European literature to normal, stem-borne, dormant roots, there is apparently so far not a single reference in American literature, either botanical or horticultural, to this subject. This is probably due to the confusion in America of "burr-knots," as the English call this class of knots on apple trees, with the "hairy-root" form of crown gall caused by the organism *Bacterium tumefaciens*.

A recent survey of the bearing apple trees in the variety orchard of the Arlington experiment farm in Virginia, near Washington, D. C., showed that of the some 500 varieties in the orchard nearly half showed the presence of more or less pronounced burr-knots, especially the varieties Bucksin, Northern Spy, Esopus, Rome, and Springdale. Since the presence or absence of these knots was a fixed and constant character for mature trees of any given variety, they must be considered in the description and classification of commercial apple varieties, a fact heretofore apparently little appreciated in Europe and not at all in America. It was also evident that there was no correlation between the presence of these knots and the size and vigor of the trees, although in a few instances canker, or fire-blight, had apparently entered through them.

Since the occurrence of the knots is not a pathological phenomenon but is a normal varietal characteristic, independent of the size and vigor of the tree, it is suggested that American horticulturists and pathologists should make sure that individual trees, as well as certain varieties, are not discarded because of the similarity in appearance between these burr-knots, and the "hairy-root" form of crown-gall.

At the Rochester meeting of the American Association of Nurserymen last month Doctors Keitt and Melhus stated that 95 per cent of "crown-gall" in the nursery is not caused by *Bacterium tumefaciens* but by faulty unions. Miss Nellie Brown last year pointed out that aerial tumors on apple trees, ordinarily supposed to be produced by crown-gall bacteria, are seldom, if ever, the result of infection with this organism. She did not, however, note the possibility of these being a normal, varietal characteristic.

Thus it would seem that possibly a revision of our ideas on crown-gall is in order, and it is possible that "crown-gall" symptoms may be due to (a) the

appearance of a normal varietal characteristic (root primordia), (b) tumors resulting from faulty union of stock and scion, perhaps caused by bad manipulation or uncongeniality, (c) root aphid injury resulting in gall formation, (d) actual infection with *Bacterium tumefaciens*, or possibly still other factors.

While English investigators long ago recognized the value of these burr-knots in propagation by cuttings and layers, the use of them seems to be unknown in America. Probably the desire to use "clean material" has been the sole reason why such root rudiments have not been utilized in America in the numerous and almost as uniformly unsatisfactory attempts to grow apple varieties from cuttings and layers. By maintaining damp moss for a few days around apple limbs containing these burr-knots the writer has obtained many roots, in some cases hundreds of roots, under a single narrow band of moss. Experiments in progress with detached twigs containing burr-knots already show that twigs bearing such dormant roots can be used in vegetative propagation of apple varieties.

A more detailed discussion of this problem will be published in the current volume (vol. 16) of the *Journal of Heredity*. Information concerning any observations of other workers on burr-knots will be welcomed by the writer.

CHARLES F. SWINGLE.

BUREAU OF PLANT INDUSTRY,

Washington, D. C.

LIVESTOCK FILMS POPULAR

Extension users of department motion picture films were rather noticeably "livestock minded" during the past six-months, according to requests received by the office of motion pictures. Altogether 1,288 of the 2,324 requests from extension workers were for films dealing with livestock subjects. Poultry led in demand, dairying was second, and diseases and parasites of cattle third. Extension-work pictures were wanted 813 times in the six months, and half of the times the requests were for boys' and girls' club films.

Other film subjects in which extension audiences were interested are forestry, crops, rural engineering, wild animals and birds, regulatory activities of the department, and marketing. Not all of the requests could be met when made, there being 774 times that all copies of the film wanted were already in use. The figures are for the period December 1, 1924, to June 1, 1925.

Dr. Miklós Liegescu de Krassószékás, Secretary of the Hungarian Ministry of Agriculture, recently visited the department to secure information concerning the relation of improved roads to agriculture.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is it true that a process for making synthetic sugar out of formaldehyde has been discovered? If so, will it be of any practical value?

Answer. Experiments on photosynthesis involving attempts to reproduce a supposed production of sugar from carbon dioxide or formaldehyde in nature date back many years. The most recent work on this subject is that of Professor Baly, of the University of Liverpool, England. By irradiating an aqueous formaldehyde solution with ultraviolet rays from a quartz mercury lamp and then concentrating the solution, a sweet sirup was obtained. Careful examination showed, however, that at least 80 per cent of this photosynthetic sirup consisted of nonsugar compounds. It was concluded that compounds possessing the properties of hexose sugars were present to the extent of approximately 9 per cent. This process has no practical value at present, and it is very difficult to appraise future developments. These recent experiments are of primary interest from the standpoint of furnishing some additional information on the probable course of photosynthesis in nature.

Question. Is it true that the cooked ready-to-eat cereals, widely sold in cartons, are deficient in nutritive value as compared with those which must be cooked before being eaten?

Answer. It is almost impossible to compare the nutritive value of ready-to-eat with home-cooked cereals. The nutritive value of any cereal food depends on the kind and on the proportion of bran, germ, and endosperm (white inner portion of the kernel) included. If outer coatings and germ are included it contains far more minerals and vitamins than if these parts are rejected. Judged on the basis of average servings the food value of the light-weight ready-to-eat cereals is lower than that of the home-cooked kinds. In the case of all cereal foods, however, it should be remembered that comparison of the nutritive value should be not on the basis of the form in which they are sold but on that of the parts of the kernel they include.

Messrs. LeGn Yeatman and Jean-Baptiste Fauchon, French engineers and members of the French commission to this country to study American methods of brick road construction and the manufacture of paving brick, were recent visitors at the department.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

ENGINEERS USE SOIL-SURVEY MAPS

Recent developments in highway engineering practice indicate that the soil-survey maps made by the Bureau of Soils for agricultural purposes may have considerable value to the highway engineer.

According to the Bureau of Public Roads the type of soil upon which a road is built has a very important bearing upon the type of surface required to withstand a given amount of traffic. Soil composed largely of clay requires a much more substantial surface than one with sand or gravel predominating. It is not often that soil conditions are uniform throughout a road project, and ordinarily changes are encountered at such frequent intervals that the task of collecting samples and identifying each by a laboratory analysis is a tedious and expensive one.

A method has recently been proposed which involves the use of a few simple field tests in conjunction with a soil survey map to secure the needed data. The engineer with such a map in hand goes over a projected road and notes on his road plans the points where soil types change as indicated by the soil map. As an example, he may find 100 such changes, but involving only 12 soil types. Field inspection or Bureau of Soils data may indicate that eight of these types may be classed as good for road construction. Only four samples need be examined carefully to determine their road-building quality. With the resulting data the engineer is enabled to design his road, giving it additional strength where conditions require it.

The textural characteristics of the soil determine to a large measure the suitability of the soil for road subgrade use, and these textural features are given in the soil survey reports. Roughly, the soil material is made up of varying proportions of sand or mineral grains and colloid or the submicroscopic particles, and the properties usually ascribed to a clay soil are due to the large percentage of colloid present. Too much colloid causes the soil to retain large amounts of water, so that it will give way under pressure, but a moderate amount of the colloid serves as a binder for the sand or mineral grains and gives a rigidity capable of withstanding high pressures.

The method of using the soil surveys was first tried out on a road in the

Northwest where the soil conditions were known to be bad and the winter rainfall heavy, and the results have been satisfactory.

BIG DEMAND FOR NEW FORESTRY MAP

The rapidly increasing interest in timber growing and in the Nation's available timber supply is reflected in the demand for a map showing the six principal forest regions of the United States which has been published recently by the Forest Service. In addition the map has a list of the principal trees found in each region and a brief comprehensive statement of the areas and amounts of timber in each region.

A surprising feature of the large demand for this map is the increasing call for it by commercial organizations and by schools. In this latter respect Pennsylvania leads the list with about 350 separate requests from teachers and county supervisors for a total of 7,013 copies.

Recently copies were sent by the lumber division, Department of Commerce, to their foreign offices located in the principal lumber markets abroad. The result has been requests from a good many of the larger lumber exporters for additional copies. Answering a request of Axel H. Oxholm, chief of the lumber division, 1,400 copies of the map have recently been furnished for transmitting to various foreign offices as well as domestic export merchants and brokers.

The Washington office of the Forest Service still has about 2,000 copies of this forestry map for free distribution.

WITH EXTENSION FORCES

HEALTH CARNIVAL

A health carnival, held in Lauderdale County, Miss., in March, to demonstrate methods and results of the growth work of the nutrition program for boys' and girls' clubs, not only drew an attendance of over 600 guests but brought about the physical examination of 162 rural girls of the county. Plans for the carnival were made by the home demonstration agent, Katherine E. Staley, Elizabeth Riley, extension nutrition specialist, and Miriam Birdseye, extension nutrition specialist of the department, in cooperation with the Girls' Reserve of the county seat, in order to bring more closely together the rural and city girls.

Use of an auditorium in the county seat was obtained for the occasion. Attractive booths were placed about the rooms for the afternoon program. One

booth on the subject of clothing showed girls suitably dressed for various occasions; another was on nutrition; care of hair and skin was demonstrated in a booth called the "beauty shop," presided over by representatives of a local shop; physical education was represented by a camp and a group of girls giving the "daily dozen." A shoe shop and a side show of modern freaks, showing overdressed and overpainted girls, completed the exhibit.

In the evening the carnival opened with a "court of general health," and while the crowd gathered girls dressed as policemen arrested people for such offenses as bad posture, using cosmetics, and wearing bad shoes. After the arrests "general health" took the bench and conducted a trial for the defenders. This was followed by a "health sing" and the style show. The last event on the program was the crowning of the queen of health, who was the girl making the highest score in a health-examination contest previously held. She was attended by a maid of honor, pages, and flower girls.

In January each club girl had been given a set of 15 health rules to follow each day as far as possible. Then at each club meeting the members answered roll call by the number of rules they were keeping. The average number reported kept at the February meetings was seven, and the average has since increased at each meeting. The health examination of the club girls took place during the week preceding the carnival. Upon registration each girl was given a score card, which was totaled after the examination by a corps of doctors, specialists, dentists, and trained nurses. The cards were returned to the parents, and many of the physical defects shown have been corrected. The girl making the highest score was the queen of the carnival and also was awarded a trip to the State short course for club members, and will represent her county in the State health contest at the agricultural college in August. Another trip was awarded the girl who did the most to improve her health from the time of the contest until the last of June.

Since every club girl could not attend the carnival, poster and essay contests on the subject of health were held, in which all the club members might participate, so that all might have a part in the health event.

At the request of the Danish minister, made through the Department of State, authorization has been given for publishing translations of Department Bulletin No. 1151, "Silver-Fox Farming," in the Danish and Icelandic languages.

COOPERATIVES NEED INFORMED LEADERS

(Continued from page 1)

cient volume of business, and poor management are the principal causes of failure. There is nothing in the history of cooperative failures which need cause discouragement. Rather, an analysis of the mistakes of the past should contribute to the development of more sound and stable organizations.

Will Not Eliminate Middlemen

"Another problem arises in the relation of the cooperative associations to the present agencies of distribution. It is frequently stated that cooperation will 'eliminate' middlemen. Such statements are largely the result of lack of information regarding the services necessary to carry farm products from the producer to the ultimate consumer. There is a multiplicity of services to be performed, not all of which can be performed by the farmers' organizations. * * *

"It must be recognized that in an industry like farming, cooperation possesses certain distinct advantages over the older methods of trading in commodities. The agricultural cooperative takes the whole crop of its members. It tries to market this to the best advantage. It avoids depression of prices because it does not aim to buy the commodity at the lowest possible price and thus exert a bearish influence on the market, nor does it resort to the practice of dumping surpluses. Furthermore, in the cooperative organization we have a producers' market which permits of greater freedom of technical improvement, both in production and in distribution methods, thus benefiting society as a whole. Cooperation does not work only to the benefit of a producing class. In addition it introduces into society those progressive practices which benefit all groups.

"The question of grade standards has an important bearing on the work of the cooperative associations. Standard grades facilitate trading, create confidence, and stabilize market conditions. Standardization tends also to keep off the market inferior products which serve only to depress the market for the better grades, but which may be used to advantage on the farm. * * *

"An outstanding matter for discussion at this conference comprises the relationships which exist between production and marketing, particularly cooperative marketing. While the great task to-day is marketing, we must not lose sight of the fact that production problems exist and demand serious attention. The farmer in the past has been urged to produce bountifully, and the market's demand for his products had been a secondary consideration. We have been

slow to recognize in agriculture that overproduction is wasteful; that it is uneconomic from the point of view of both producer and consumer. * * *

Department Advance Reports Valuable Indices

"Before a beginning can be made in the stabilization of production certain basic information must be collected, analyzed, and disseminated widely. A knowledge of prices over long periods is necessary. * * * The crop estimates of the Department of Agriculture indicate in advance the yields of the current crops. Acreages of bearing and non-bearing fruit trees show the trend in the production of these crops. Agricultural outlook and (intentions-to-plant) reports issued by the department give information which properly interpreted and applied would advance the cause of crop stabilization materially. General economic conditions are also important as an index of the probable purchasing power of the consumers.

"As the need for supplemental statistics becomes apparent, they can be collected in most instances by the department and other agencies now engaged in this work. But all this statistical information must be interpreted and made available to the producers by the cooperative associations. * * *

"The large question of agricultural credit is affected by the operations of the marketing associations. As a group they are the most important borrowers of funds from the intermediate credit banks. Agricultural credit corporations have been formed under the auspices of marketing associations. In some instances, in fact, the marketing associations are the principal stockholders of the credit corporations. The connection between the associations and these agencies, the credit needs of the associations and their members, and the extent to which present agencies are meeting these needs form a profitable field for research.

"In no small degree cooperation is modifying conditions of rural life and education. The local association, though it may function primarily as a business organization, becomes a gathering point for the discussion of other community problems. It makes contacts with State extension officials, Farm Bureau representatives, and officers of the grange and other general agricultural organizations. It has its influence on the development of agricultural education in the local schools. The larger associations, particularly in the South, are interested in the development of community locals whose membership is not confined to members of the association and whose programs are largely social and educational. It is an interesting feature of

their development that these organizations, devoted primarily to the business of cooperative selling and buying, should come to be important factors in the social progress of the rural communities. * * *

Benefits Derived From Cooperatives

"A realization by leaders in the cooperative movement that cooperation is not merely a means for obtaining a better price for a single year's crop but that it is a means for gradually adapting production to market demands, for insuring less wasteful distribution, for reducing the spread between what the farmer receives and what the consumer pays, for aiding in the solution of agricultural credit problems as they arise, for improving the rural life of the Nation, for insuring a better understanding of national and international problems—this realization, implanted by leaders and future leaders, such as I see before me, in the minds and hearts of the farm people of the United States, will do much to insure not only the success of cooperation but increased prosperity and stability for the Nation."

Completed Federal-Aid Roads Make Highway Routes Continuous

Nine thousand four hundred and forty-five miles of Federal-aid road was brought to completion during the fiscal year ending June 30. An additional 4,587 miles is reported completed but has not been finally inspected and accepted, according to the Bureau of Public Roads.

The outstanding result of the year's work has been the large mileage of continuous highway routes made available. In practically every State gaps in through routes have been closed and many extensions made. Probably the most notable project opened to traffic is the Wendover cut-off across the Great Salt Lake Desert, which has removed an age-old obstacle to transcontinental traffic.

All of the construction has been on the designated Federal-aid highway system, consisting of approximately 175,000 miles which is to serve as the main highway system for the Nation. At the beginning of the fiscal year 35,452 miles had been completed with Federal aid, and the year's work brings the total to more than 46,000 miles in service, since a considerable portion of the 17,123 miles reported as under construction has already been opened to traffic.

Texas led in mileage completed during the year with 784 miles, followed by South Dakota with 458 miles, Illinois with 431 miles, and Minnesota with 429 miles.

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- Rogers, D. M. (Entomology). The methods employed in enforcing the gipsy moth and brown-tail moth quarantine. *Journal of Economic Entomology*, vol. 18, No. 3, pp. 481-487, June, 1925.
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- Smith, C. B. (Cooperative Extension Work). Thought demanded for millions of rural children out of school. *Christian Science Monitor*, vol. 17, No. 172, p. 9, June 18, 1925.
- Wiles, C. C. (Entomology). An improved insect net. *Journal of Economic Entomology*, vol. 18, No. 3, pp. 546-547, June, 1925.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of July 13-18, 1925. Copies of these publications may be obtained from the stations issuing them:

- Alkali soils—origin, examination, and management. P. L. Hibbard. (California Sta. Circ. 292, pp. 14. June, 1925.)
- The relation of stored food to cambial activity in the apple. E. L. Proebsting. (Hilgardia [California Sta.], vol. 1, No. 5, pp. 81-106, figs. 7, June, 1925.)
- The utilization of sulfur dioxide in the marketing of grapes. A. J. Winkler and H. E. Jacob. (Hilgardia [California Sta.], vol. 1, No. 6, pp. 107-151, figs. 4, June, 1925.)
- The improvement of naturally cross-pollinated plants by selection in self-fertilized lines.—I. The production of inbred strains of corn. D. F. Jones and P. C. Mangelsdorf. (Connecticut State Sta. Bul. 266, pp. 345-418, figs. 47, Mar., 1925.)
- Miscellaneous experiments with potatoes. B. A. Brown and W. L. Slate, Jr. (Connecticut Storrs Sta. Bul. 126, pp. 27-42, fig. 1, Jan., 1925.)
- Measuring the breeding value of dairy sires by the records of their first few advanced registry daughters. F. A. Davidson. (Illinois Sta. Bul. 270, pp. 545-566, figs. 18, June, 1925.)

- Studies in iodine feeding.—Part I. Potassium iodide feeding beneficial to young swine. J. M. Eyraud and C. C. Culbertson. (Iowa Sta. Research Bul. 86, pp. 181-220, figs. 23, May, 1925.)
- Commercial agricultural seeds, 1924. Insecticides and fungicides, 1924. J. M. Bartlett, E. B. Tohey, C. H. White, and L. M. Baker. (Maine Sta. Off. Insp. 114, pp. 69-88, Dec., 1924.)
- The feeding value of some unusual commercial feeds. J. G. Archibald. (Massachusetts Sta. Bul. 216, pop. ed., pp. 7, figs. 8, Oct., 1923.)
- The boxwood leaf miner (*Monarthropalpus buxi* Labou). C. C. Hamilton. (Maryland Sta. Bul. 272, pp. 143-170, figs. 8, Feb., 1925.)
- Investigations on the blackleg disease of potato. J. E. Kotila and J. C. Coops. (Michigan Sta. Tech. Bul. 67, pp. 29, figs. 7, May, 1925.)
- A comparison of wheat by-products for growing pigs. E. F. Ferrin and M. A. McCarty. (Minnesota Sta. Bul. 219, pp. 10, fig. 1, Feb., 1925.)
- Effectiveness of calcium cyanide in poisoning the pocket gopher. *Geomys bursarius* (Shaw). F. L. Washburn and C. E. Mickel. (Minnesota Sta. Tech. Bul. 27, pp. 14, fig. 1, Apr., 1925.)
- Hog prices. H. C. Filley. (Nebraska Sta. Bul. 208, pp. 29, figs. 7, May, 1925.)
- The chinch bug and its control. M. H. Swenk. (Nebraska Sta. Circ. 28, pp. 34, figs. 6, June, 1925.)
- Forty-seventh annual report of the North Carolina Agricultural Experiment Station for the fiscal year ended June 30, 1924. B. W. Kilgore et al., pp. 95, figs. 15.
- The agricultural situation in Roanoke and its trade territory, with special reference to the adjustment of agricultural production and distribution in Roanoke's trade territory to meet home-market demands. J. J. Vernon and H. I. Richards. (Virginia Sta. Bul. 240, pp. 70, figs. 31, Mar., 1925.)

CIVIL SERVICE ANNOUNCEMENTS

Specialist in cotton classing, \$3,800-\$5,000. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., and in the field, and in positions requiring similar qualifications, will be filled from this examination. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close August 25, 1925.

Biometrician, \$3,800. A vacancy in the Bureau of Dairying, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close August 18, 1925.

Veterinarian and physiologist, \$3,800. A vacancy in the Bureau of Dairying, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close August 25, 1925.

Junior meteorologist, \$1,860. Vacancies in the Weather Bureau for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2413, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close August 29, 1925.

PRINCIPAL LIBRARY ACCESSIONS

VETERINARY MEDICINE

Velu, Henri, and Barotte, Jean. *Éléments pratiques de pathologie vétérinaire exotique.* Paris, E. Larose, 1924.

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Illick, J. S. Common trees of Pennsylvania, how to know them, where to see them. Altoona, Pa., Times tribune company, 1925.

Wimmer, Emil. *Die lehre vom forstschutz.* 8. aufl. von Fürst-Kauschingers Lehre vom waldschutz. Berlin, P. Parey, 1924.

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Renouard, Alfred. *Les industries du lin, du chanvre, du jute et de leurs succédanés.* Paris, C. Beranger, 1921.

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Roberts, L. B. *Topographic mapping.* Washington, D. C., Society of American military engineers, 1924.

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PHARMACY

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Crew, F. A. E. *Animal genetics.* Edinburgh, Oliver and Boyd, 1925.

BOTANY

Imperial botanical conference, London, 1924. Report of proceedings. Cambridge, University press, 1925.

Stevens, F. L. *Plant disease fungi.* New York, Macmillan, 1925.

ECONOMICS AND STATISTICS

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Fordham, Montague, and Fordham, T. R. *The English agricultural labourer, 1800-1925.* London, the labour publishing company, 1925.

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Sauzède, André. *Comment l'agriculteur peut vendre sa feuille d'impôts sur les revenus.* Paris Librairie agricole de la maison rustique, 1925.

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Dugdale, Sir William. *The history of imbanking and draining of divers fenns and marshes.* London, A. Warren, 1662.

Husnot, P. C. *Hepaticologia gallica.* Paris, F. Savy, 1875-81.

Lindberg, S. O. *Musci scandinavici in systemate novo naturali dispositi.* Upsaliae, I. Edquist, 1879.

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Tornabene, Francisco. *Flora Etna.* Catania, P. Galati, 1889-92.

Tunstall, Marmaduke. *Ornithologia britannica.* London, J. Dixwell, 1771.

Zeitschrift für gärtner, botaniker und blumenfreunde. Hrg. von David Dietrich. v. 1-2. Jena (A. Schmid), 1840-43.

PERIODICALS CURRENTLY RECEIVED

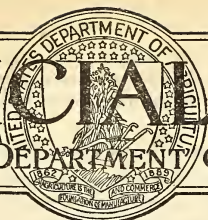
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THE OFFICIAL RECORD

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No. 31

MEXICO STUDIES AIRPLANE DUSTING

Officials Visit United States to Find Plan for Exterminating Destructive Locust

Recognizing the success which the department has had in the use of airplanes in applying insecticides, the Secretary of Agriculture of Mexico, Señor Juan Ballesteros, recently visited the offices of the Bureau of Entomology in Houston, Tex., and Tallulah, La., to investigate that work. Accompanying the Secretary were Señor Manuel Alcázar, a trained naturalist of much experience in Mexico, and Señor Mariano Domínguez, a well-known aviator.

For some time a migratory locust or grasshopper has been causing enormous damage in the southern portion of Mexico. The use of airplanes seemed a feasible method of applying insecticides to control this outbreak. Accordingly the Bureau of Entomology called the attention of the Mexican Department of Agriculture to this possibility.

Airplane Found Efficient and Effective

Three years ago the department conducted experiments at the boll weevil laboratory at Tallulah, La., relative to the use of airplanes for distributing poison dust for the control of the boll weevil. Results showed definitely that the airplane was an efficient, effective, and profitable method of controlling heavy and widespread infestations of the boll weevil and, incidentally, leafworm—a heavy outbreak of which was in the same locality—as contrasted with the results of dusting with ordinary ground machinery.

In connection with the work of the Bureau of Entomology in airplane dusting, the Office of Motion Pictures, co-operating with the Army Air Service, made a one-reel film entitled "Fighting Insects from Airplanes." This film was shown to the Mexican Government officials while at Tallulah.

The experiments conducted by the department showed that the military airplane, used solely for the work at first, was not suitable. Therefore a number of airplane manufacturers were interested in the subject of developing special planes for insecticide distribution which would be more efficient and safer than the military types previously employed. The result has been that several of these have now been built and are being further studied and developed. The commercial possibilities of these specially built planes have extended to the point where several thousand acres are being dusted commercially by them this year, and extensive plans are under way for an even more widespread use of this method in the future. As a result of the visit of this commission from the Mexican Government, it is quite likely that the Mexican Government will purchase several of these special dusting planes.

Mexico Issuing Special Stamp for Revenue

In order to raise funds for the support of the work against the locust, the Mexican Government is now issuing a special 1-cent stamp. All domestic mail in Mexico must carry this additional stamp, the proceeds from which go into the locust fund. At present the amount reaching the treasury from this source is about \$40,000 gold per month.

At Houston, Tex., the commission conferred at length with W. D. Hunter of the Federal Horticultural Board regarding the pink bollworm situation in Mexico. The situation is quite serious at present and the attempt is being made to determine what further steps can be taken to prevent the spread of that insect from the infested district in Mexico to other parts of that Republic and to reduce the danger of infestation reaching the United States. Toward this end, Señor Ballesteros is contemplating the erection of large fumigating houses for disinfecting all railroad cars which leave the regions infested by the pink bollworm for other parts of Mexico, including the ports on the Rio Grande.

T. B. TEST SHOWN TO HAVE GREAT ACCURACY

Federal Records on 1,400,000 Cattle Disclose Reliability of 99.75 Per Cent

"We may conclude that the tuberculin test, so far as its reliability depends on so-called 'no-lesion' tuberculin reactions, is 99.75 per cent perfect when it is properly made and when the results obtained with it are correctly interpreted." This is the conclusion of Dr. E. C. Schroeder, of the Bureau of Animal Industry, following a study of detailed official records on tuberculin testing. In his capacity as superintendent of the bureau's veterinary experiment station, Doctor Schroeder has conducted many investigations on tuberculosis of livestock and is a national authority on the subject.

In the application of the tuberculin test to the present systematic eradication of tuberculosis from livestock, questions concerning the reliability of the test naturally have arisen. The work has gone forward under widely varying conditions, and post-mortem results have ranged all the way from generalized cases showing extensive infection to others showing very small lesions or none at all. Especially in those cases where animals diagnosed as reactors failed to show visible lesions of the disease on post-mortem examination, there have been local doubts concerning the reliability of the test.

Information for Stock Owners

On the other hand, widespread popularity of tuberculin testing—as shown by long waiting lists and thousands of herds freed from the disease—is evidence of satisfaction and confidence among most cattle owners. Such confidence is further supported by the recent findings of Doctor Schroeder. In two Wisconsin counties, 51,679 cattle were tested with tuberculin and among those that reacted 123 failed to show visible signs of tuber-

culosis when slaughtered. This means that among every 420 cattle tested, only one reacted without showing evidence of the disease to account for the reaction. A study of the reported no-lesion tuberculin reactions among 1,433,169 cattle tested in all States during March and April of this year gives approximately the same proportion, or one no-lesion reacting animal among every 400 tested. This work represents official testing in the tuberculosis-eradication campaign conducted cooperatively by the various States and the Federal Government.

The chargeable error of a quarter of 1 per cent against the tuberculin test is further reduced by the results of microscopic and biological tests. A large proportion of the cattle in this fraction of a per cent reveal true, incipient, undeveloped cases of tuberculosis. In many, if not in most instances, these cattle would have developed clearly visible signs of tuberculosis. In other words, the so-called no-lesion cattle would before long have become dangerous spreaders of tubercle bacilli had the cattle been allowed to live.

Small Lesions Soon Large

Reports from field stations of the Federal Bureau of Animal Industry show that the views of Doctor Schroeder are in close harmony with independent observations made by other officials, experienced in the work. In several Western States a large portion of tuberculous infection is evident chiefly in skin lesions. In skinning such carcasses the butcher's knife frequently encounters gritty spots—sometimes smaller than a pea—which are true lesions of tuberculosis, the grit being a mineral deposit commonly found along with a cheesy accumulation of the tubercle bacilli. "Curiously, after the carcass has been skinned," Dr. F. E. Murray, inspector in charge of the Salt Lake City office of the bureau, said in commenting on the subject, "it is almost impossible to find such lesions either on the hide or on the carcass even on the closest inspection. Yet the characteristic grit reveals them during the skinning process. By inducing the butchers to cooperate with us in calling the attention of inspectors to such skin lesions, the proportion of reported no-lesion cases has greatly declined. I am satisfied that when an animal reacts to the tuberculin test, it is tuberculous though even a most searching inspection may not always disclose the whereabouts of the disease, owing to the bulk of the carcass. In other words, with increasing experience we find that the tuberculin test is more sensitive and more accurate than human ability to find the germs which cause the reaction. Yet, as Doctor Schroeder has

found, even a small lesion may soon become large and a serious source of danger to the afflicted animal and the rest of the herd."

Correct Way to Figure Reliability

A practice that has exaggerated the reports of no-lesion reactions is that of estimating the proportion of no-lesion animals among those that react, in place of estimating the proportion of no-lesion animals among the total number tested. For instance, among the 51,679 cattle previously mentioned, 520 reacted and 123 of the reacting animals failed to show visible signs of tuberculosis.

Basing the per cent of no-lesion reactions on the 520 reacting animals gives the high figure of 23.39; but when properly based on the total number of cattle to which the test was applied, the percentage is 0.237.

If the 51,679 cattle had been entirely free from tuberculosis and only one among them had reacted, by using the erroneous method of estimating the percentage of no-lesion reacting cattle, the one reacting animal would have been a 100 per cent charge against the reliability of the test.

The net result of the bureau's study of so-called no-lesion cases appears to enhance the value and reliability of the tuberculin test as a means of detecting tuberculous infection even when only slightly present in an animal. Usually there is an ample number of visible lesions to satisfy persons who may be skeptical. But even where careful inspection fails to reveal the disease, the evidence still points strongly to the animal as a menace to other livestock and to humans.

Crop-Reporting Arrangements Established with Porto Rico

Tentative arrangements made by the United States Department of Agriculture with the Porto Rican Department of Agriculture and Labor for crop reporting in Porto Rico call for four estimates annually of the sugar crop of the island, two estimates each year for grapefruit, and one each year for tobacco, cotton, and pineapples. The first sugar estimate will be made before the harvest, and one of the grapefruit forecasts will be made in September. In the case of tobacco, an estimate will be made in the spring just after the harvest, and estimates of cotton and pineapple production will likewise be made after the harvest of these crops. When better facilities are available, forecasts will be made of the production of these crops as well as production estimates following the harvests.

These reports will be an important addition to the department's crop information service. Exports of agricultural products from Porto Rico to the United States in the year ended June 30, 1924, amounted to \$66,320,000 compared with \$61,801,000 in the preceding 12 months. Sugar accounted for \$47,793,000 of the 1923-24 exports to this country, and unmanufactured tobacco accounted for \$13,170,000. Grapefruit exports to the United States were valued at \$2,000,000 out of a total of \$3,792,000 for all fresh and preserved fruits. These items are considered too important to be guessed at.

Lack of reliable acreage information about Porto Rican crops is the chief difficulty to be overcome in developing the new crop-reporting system. Little acreage information has been available since the census of 1919. That census, moreover, was not entirely satisfactory. Gathering acreage information in Porto Rico is difficult because some crops are planted twice a year. Tobacco is planted at two different periods, and in many sections two crops are harvested from the same planting. Sugar cane is planted in the spring and in the fall, and cotton in the southern part of the island is planted in the fall, while the northern part it is planted during the winter. There are consequently two cotton harvesting seasons. From two to four crops are harvested from each planting of pineapples.

Sugar cane occupies considerably more than half the cultivated acreage of the island. Tobacco ranks next in value to sugar, although in 1919 it was only fourth in order of importance. Fruits and nuts in general ranked third in value in 1920, with bananas first in the group and coconuts second. Exports of grapefruit for the 1925-26 season are expected to exceed the 681,400 cases shipped during the last season. While cotton is as yet of only minor importance, recent successes of cotton producers have called attention to the crop, the production of which last year was about 1,900 bales. The 1924-25 coffee crop is expected to reach 26,000,000 pounds.

The thirtieth annual convention of the International Apple Shippers' Association will be held at Cleveland, August 11-14. W. G. Campbell, director of regulatory work of the department, and Lloyd S. Tenny, Assistant Chief of the Bureau of Agricultural Economics, are on the program for August 13. Mr. Tenny will speak on "The Service Work of the Department of Agriculture." Mr. Campbell will speak on the regulatory work of the department.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

1925 WORLD WHEAT CROP FORECAST

Wheat production forecasts from 17 countries received by the department up to July 28 give a total of 2,109,000,000 bushels against 2,065,000,000 bushels from the same countries last year. These countries normally produce more than three-fourths of the world's wheat crop outside of Russia.

AGRICULTURAL OUTLOOK REMAINS GOOD

The 1925 agricultural picture is painted in bright colors by the department. As business conditions also continue good the combination presents an optimistic national outlook, the department says. The department's general index of purchasing power of farm products in terms of nonagricultural commodities remains at a level of 90, compared with a five-year pre-war level taken as 100.

BEEF-CATTLE OUTLOOK ENCOURAGING

Beef cattle are in a stronger position than a year ago and with prospects for a scarcity of fed steers this fall higher prices are anticipated, according to the Bureau of Agricultural Economics in its beef-cattle outlook report released last week. A large supply of corn at reasonable prices and a material reduction in the supply of hogs are also in prospect. This should result in an active demand for feeder cattle.

WOOL CLIP LARGER THIS YEAR

An increase of 11,350,000 pounds of wool shorn in the United States this year over 1924 is shown in a preliminary estimate issued by the department last week placing the 1925 clip at 249,885,000 pounds, compared with 238,530,000 pounds in 1924.

SHEEP PRODUCTION EXPANDING

There is a tendency to expand sheep production in the United States, according to the department. A survey recently made by the department shows an increase of 5.5 per cent in the lamb crop over last year and a percentage of yearling ewes in breeding flocks more than sufficient for replacements. The increased lamb crop is due to increases in the so-called "native" sheep States, the "Western" States showing a de-

crease. The tendency to expansion is more marked in native farm flocks and in small flocks in the Western States.

FARMERS' RETURNS STILL LOW

Although agriculture in the United States did better financially in the year ended June 30, 1925, than in the preceding 12 months, its income was nevertheless not sufficient to yield both a fair return on the capital invested in the business and a fair wage for the labor of farm operators and their families. This is brought out by the department in an analysis of the agricultural balance sheet for the last crop year.

92,000 FOREST FIRES IN 1924

Nearly 92,000 forest fires swept 29,000,000 acres of public and private lands during the calendar year 1924, according to a report just compiled by the Forest Service. The actual money damage was \$38,000,000 exclusive of damage to young growth, watershed protection, wild life, and recreational facilities.

Legal Protection of Cotton Communities in California

That the farmers of each community restrict themselves to the planting of a single variety has been urged by the Department of Agriculture as an essential step in the progress of the American cotton industry. The advantages in community production are now so well recognized in California that legal protection is being given to the one-variety communities against the danger of mixture and impairment of the seed-stocks by careless or irresponsible individuals.

In two of the California cotton-growing counties, Riverside and Kern, ordinances were passed by the boards of supervisors to keep other kinds of cotton seed from being planted in the one-variety communities. At the last meeting of the State Legislature an act was passed which definitely excludes other varieties of cotton from specified districts where the farmers have restricted themselves to the Acala variety.

The purpose of the enactment, to protect the public interest in the improvement of the cotton industry, is clearly stated in the first section of the act (California Assembly bill No. 167), and is regarded by the framers of the act as in line with well-established precedents. It is recognized in other public improvements that the responsibilities are to be shared by the entire community that establishes the improve-

ment, as in irrigation or drainage districts. No extra cost is involved in establishing the one-variety improvement, but only the requirement that growers refrain from injuring their neighbors who have adopted an improved system of production. The cotton land becomes more valuable in a restricted community, because it can be used with greater advantage to the farmer, as in parts of California where a definite exclusion of noxious weeds or diseases is being maintained.

As compared with the usual conditions of mixed-variety production, each individual farmer of a one-variety community is able to raise more cotton and cotton of better quality, which can be sold at a higher price. The manufacturers are willing to pay more for dependable supplies of uniform fiber because the spinning and weaving are less expensive and the resulting fabrics are better. The advantages to be expected eventually through establishing and maintaining a system of community production and marketing of the crop of Acala cotton in the single-variety communities may be estimated conservatively at from 3 to 10 cents per pound, or from \$15 to \$50 per bale, more than the growers would receive if other varieties were admitted and the usual mixing and mongrelizing of the seed stocks took place.

Under the usual conditions of production, with different varieties grown in neighboring fields and the seed mixed together at the public gins, most of the crop is produced from mongrelized, "gin-run" seed and the lint is of irregular, inferior quality. On account of cross-pollination by insects and the construction of the gin machinery the mixing and deterioration of seed stocks is practically inevitable if different varieties are grown in the same community. No general utilization of superior varieties is practicable without the one-variety communities where the pure planting seed can be produced in sufficient quantities to maintain the quality of the cotton throughout that region.

The protection of one-variety communities is of interest in other States not only as a step in working out the general problems of the cotton industry, but as assuring a source of seed supply of good varieties that may be drawn upon in emergency years. Twice in the last 10 years most of the good stocks of planting seed have been lost over wide regions of the eastern Cotton Belt, as a result of unfavorable weather and excessive weevil damage, so that most of the crop of the following years had to be planted with inferior seed, for lack of any supply of good seed in sufficient quantity.



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EXAMINE YOUR RAILROAD TICKETS

When purchasing a railroad or boat ticket, travelers are urged by the office of the traffic manager to note always the number, form, and route of the ticket. In case of loss of the ticket or transportation request, the traveler should at once notify the traffic manager or, if outside of Washington, notify the local railroad ticket office or agency, giving the foregoing information, and then report in writing the loss to the home office. By doing so, the trainmen can be advised in time to prevent the use of the ticket by anyone else, the person attempting to use it can be apprehended, and the cost of the ticket will not be a total loss. Certain railroads, if notified in time, will issue a duplicate ticket—the traveler giving a bond to be held until the expiration of the time limit of the original ticket.

Recently a department employee lost his wallet containing money and the return half of a round-trip ticket to the West coast. Had the traffic manager been notified at once, anyone trying to use the ticket could have been apprehended and possibly the money returned. As the ticket was issued at excursion rates a new return portion entails considerable personal expense to the traveler.

FORECASTS PROMOTE SALE OF RADIO SETS

New ways in which people are benefited by the daily weather forecasts issued by the Weather Bureau are constantly coming to light. A story told by the Huntingburg (Ind.) Argus illustrates the fact that the forecasts are promoting the sales of radio receiving sets.

A salesman, says a writer in the Argus, was trying to dispose of a set to a farmer, who took very little interest until the set had been installed for the purpose of demonstration and a loud-speaker attached. The story proceeds as follows:

"It just happened that the weather forecast was being given. The speaker announced the coming of a storm that would cover that area. At that moment the sun was shining. The farmer laughed. He was very skeptical about the value of radio. He listened to additional information about the weather, and then he wondered if there was any truth about the coming storm. He remembered that he was putting a new roof on a part of his house. The old roof was off, and the storm would do much damage. Although the sky was absolutely clear, the sun was shining, and he did not believe there was going to be a storm, he went to work and covered the bare rafters with canvas. No sooner was the job completed when angry clouds commenced to roll over the horizon, and in a very short time a severe electrical storm broke. The farmer and the salesman stood indoors watching through the window as the rain beat down.

"How much is that set?" asked the farmer.

"The salesman told him.

"I'll take it," said the farmer. "The information I have just received is of greater value than the cost of the set."

"Before the salesman left the radio had been installed and was ready for use."

U. S. D. A. FILMS AID AMERICANIZATION

That the educational motion pictures of the department are proving successful in unexpected ways is shown in the following extract from the report of work with motion pictures in the Americanization School of the District of Columbia:

"The Department of Agriculture films, although not made for the specific use to which they have been put in the Americanization School, have thus far proved to be the most adaptable films for the work of teaching the use of the English language to the adult foreigner through the study of America. The photography is excellent and the titles of most of the films are short. All sections of the United States are brought close to the student and the work of the Government and scientific agricultural methods are shown."

The mailing lists record section, Office of Information, announces the release of an alphabetical and numerical index of the mailing lists of the Department of Agriculture, revised to June 5, 1925.

Copies needed for official use can be obtained from the above-named office.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Do foreign countries publish weather maps similar to those issued in the United States?

Answer. Daily weather maps, based on telegraphic reports, are published in most civilized countries, though not in all. In South America the only country that issues a weather map is Argentina. No weather maps are issued in Africa south of the equator.

The weather maps published in various parts of the world exhibit much diversity in detail, though they have, of course, many features in common. As a rule, a weather map covers a wider area than that of the country in which it is published. Thus each of the numerous maps published in Europe includes the whole or a large part of that continent. The Russian meteorological service issues a map embracing the whole of Europe, together with Iceland and Asia Minor, and also the northern half of Asia as far east as the Pacific coast. The Deutsche Seewarte at Hamburg, Germany, has recently begun publishing a daily weather map of the Northern Hemisphere. A map of the Northern Hemisphere is also issued by the meteorological office in London in a limited edition, besides which this office publishes three separate daily maps, viz., an international map covering much of Europe, a map limited to the British Isles, and a bulletin of maps, graphs, etc., presenting the results of daily upper-air observations.

The publication of weather maps throughout the world has been stimulated, and the scope of such maps has been much enlarged, as a result of the broadcasting of weather reports by radio. Incidentally, many of the foreign weather maps now include reports from ships received by radio.

A school for training Federal hay inspectors will be held at the hay standardization laboratory of the Bureau of Agricultural Economics, located at 1513 Genesee Street, Kansas City, beginning August 17. This school will be for the purpose of training a number of inspectors for the Middle Western States; also for extension workers and others in that territory who are interested in Federal standards. Anyone desiring to attend the school should either write the Hay, Feed, and Seed Division, Bureau of Agricultural Economics, Washington, D. C., or the Hay Standardization Laboratory, 1513 Genesee Street, Kansas City, Mo.

NEW IDEAS AND DISCOVERIES

PEAR BLIGHT INFECTION OF ROSE CUTTINGS AND OF MATURE FRUIT

The pear blight germ (*Bacillus amylovorus*) is rather definitely pathogenic. Like many bacteria, it is very easy to grow as a saprophyte in cultures in liquid culture media, on solid culture media, various cooked vegetables, etc. As a natural parasite out of doors, it attacks mainly the pomaceous fruits but has been known to attack in a very minor way some of the stone fruits and can be artificially inoculated into some of the plums and into apricots if conditions are very favorable. The germ is sensitive to the condition of the host plant as to growth. It attacks tender growing parts such as blossoms, young fruits, twig tips and the bark and cambium of older parts of the tree during periods of active growth.

Young fruits out of doors are quite freely attacked during their younger stages of growth, insect punctures of various kinds being the means of inoculation after the nectaries have become corky. They are also very easily artificially inoculated by puncturing in pure cultures of the germs with a needle. Fruits which have made one-third or less their growth in diameter usually yield 100 per cent of infections, and the fruits are totally destroyed, usually dropping off as the infection spreads. As they pass one-third to one-half their diameter growth, the artificial inoculations cease to take and the same condition is true with natural infections in the orchard. The tissues evidently become too mature and too resistant for the germs to readily act as parasites. If conditions are extremely favorable, susceptible summer apples may take infection through later stages. Red Astrachan has been found affected when nearly mature.

Nothing of this kind, however, has ever been observed on fall and winter apples. Thousands of specimens have been examined from badly blighting trees without a trace of blight in the fruit. Dr. Charles Brooks and Dr. J. S. Cooley have made thousands of cultures from the various rots of mature fruits in the fall and winter, of apples and pears, and they advise me that never in all of these cultures have they found a case of pear blight in the rots of mature winter apples and pears. All these experiments and observations indicate that the pear blight germ did not live in the mature winter fruit, and pear blight certainly does not occur ordinarily in such fruit. We were led to think that the condition

of the tissues in mature apples and pears were such as to forbid the parasitism of this bacillus.

Some recent laboratory experiments, however, have proved that this view is not wholly tenable. Many experiments in the laboratory and repeated outdoor observations and experiments have shown that the parasitism of this germ is very keenly influenced by turgidity and water in the tissues and by moisture and humidity of the air surrounding the plant or plant part under observation. The bell jar and moist chamber therefore have been repeatedly used in inoculating tissues with pure cultures of this germ and its parasitic action is well known to be very greatly increased under these conditions of excessive moisture and cell turgidity of the tissues.

A set of experiments was started to test the extreme possibility of the pear blight germ infecting and surviving in mature apples. A number of Winesap apples of good size were cut in half and a circular slice removed, exposing the flesh of the cheek of each half. These were then partly immersed in sterilized, distilled water, about one-half inch deep, on the bottom of a sterilized moist chamber. The center of the circular cut on the cheek of the apple was then inoculated with a single needle puncture about one-fourth to one-half inch in depth with a pure culture of the pear blight bacillus. The filter-paper lining which reached into the water was then thoroughly moistened and the overhanging cover put in place. A number of fruits uncut were placed in moist, damp chambers and inoculated in the same way and uninoculated fruits of both sorts were kept as checks. With young fruits half or less than half grown, under these conditions evidence of infection will begin in two or three days. Milky drops of the pear blight bacillus will appear at the puncture and tiny exuded drops will begin to appear on the surface of the tissues adjacent. At the end of five days the inoculation is well developed, large, milky drops appearing. In this case, however, with mature fruits daily observations up to seven days showed no evidence of infection. At the end of two weeks, however (the laboratory rooms were ordinarily heated to about 70° F. but at night this temperature arose several degrees above this point), to our surprise evidences of pathogenic action were plainly to be seen. A milky drop appeared at the needle puncture and tiny drops were exuded from the tissues a half inch or more distant, showing that the germs had actually multiplied and invaded the tissues of the mature apples under these extreme damp-chamber laboratory conditions. Microscopic examination of the exuding drops distant from the point of infection were made and both the droplets and the tissues were found invaded with the characteristic bacillus. These were cultured germs. These recultured germs were tested as to their validity by inoculating

on the cut surface of dormant pear and apple twigs. Cuttings were placed with their lower end in water and the slanting cut surface of one and two year twigs was then inoculated by smearing over with the pure cultures. This was then placed under a bell jar lined with moist filter paper. This is an old experiment which gave positive results in this test. Germs were recultured from the blight on these cuttings and the experiment on winter apples in the damp chamber was repeated a second time, with the same results. Not all the cut surfaces take the infection under a bell jar but about three-fourths of the apples with their cut lower edge in water took the inoculation under these forced laboratory conditions. None of the whole apples, however, gave any exudate or any very definite indication of pathogenic activity, though perhaps there was some slight spread of the inoculated material in some of these fruits.

The experiment was now carried around a third cycle, the germs having passed through the apple a second time and further tested for validity. Cultures from the pear and apple cuttings were reinoculated into apples of the Yellow Newtown variety, with the same result. Part of the inoculations on the cut surface took the infection and the germs spread and exuded from the surrounding tissues. At the time of the third series of experiments spring had arrived and young pear shoots several inches long produced on outdoor trees were available, so these were placed in a small jar, like cut flowers, inoculated in their ups by needle punctures, water placed in the containing vessel and covered with a wet paper-lined bell jar. These infections of the young twig tips all developed typical pear blight in five or six days, as they should do if the true pear blight germ is used.

In the second series of experiments some rose cuttings in a semidormant condition with the leaves slightly started into growth were also inoculated in the same way as the pear and apple cuttings. Three sets of three cuttings each were placed under these bell jar conditions, and two cuttings in each set inoculated, one being left as a check. These rose cuttings, somewhat reluctantly and somewhat feebly it is true but nevertheless definitely, developed pear blight on the cut surfaces. The water-soaked darker greenish appearance was the first symptom, followed by slight browning. Before the rose cuttings developed very well-marked cases and at the end of two weeks' time molds began to creep over the surfaces, putting an end to the experiment. The rose has never been found attacked by pear blight out of doors.

To sum up, pear blight ordinarily does not attack the mature fruits of summer apples and pears. It can occasionally, however, attack summer apples clear up to maturity, and probably the same thing is true of summer pears. It has never been found on mature winter apples and pears at harvest time in the autumn or in storage during winter, and under ordinary inoculation conditions will not attack these fruits. Under the forced conditions of the damp chamber, or bell jar, it has been shown, however, that the pear blight germ can attack the tissues of mature winter apples.

M. B. WAITE.
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Washington, D. C.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

DEPARTMENT MOVIES ON THE ROAD

Several branches of the department, cooperating with the Office of Motion Pictures, maintain traveling motion-picture expeditions. These go from one point to another, covering a certain territory thoroughly and making one-night stands six nights a week. It is estimated that in this way thousands of people in remote districts are enabled to see these pictures and benefit by them.

The tick eradication division of the Bureau of Animal Industry conducts two of these outfits. The first, sent out a couple of years ago, has visited Alabama, Arkansas, North Carolina, Mississippi, Texas, and Oklahoma. The second, sent to Florida last January, has been confining its activities to that State, except for short visits to North Carolina, South Carolina, and Georgia.

The equipment necessary to one of these expeditions consists of a 1-ton motor truck carrying an electric generator, batteries, a complete motion-picture outfit including screen, a string of electric lights, and assorted films prepared by the Department of Agriculture. The show is strictly first class from a technical motion-picture standpoint, and has ample electric power to show pictures practically as clear as those seen in the cities.

The feature picture of the entertainment is a three-reel film entitled "Mollie of Pine Grove Vat." This picture was prepared for the purpose of telling in story form how plucky people in one community, through local sentiment and the heroism of a young woman, eradicated ticks in spite of serious obstacles and opposition by a lawless element. Along with this picture is shown "She's Wild"—a western film of cowboy sports for the benefit of the younger generation who attend the shows. In addition to these two pictures which are always shown there are others, changed from time to time, to fill out a program lasting two hours. These latter pictures include agricultural subjects also, such as "Roads from Surf to Summit," showing road building in the national forests in the Pacific Northwest and the State of California—a lovely scenic background—and any others which might prove entertaining or especially applicable to the region in which they are shown. Effort is made, always, to show those educational pictures with a story

and enough action to make them interesting. Between pictures there is a short talk by the officer in charge, explaining the object and benefits of tick eradication and matters of local interest pertaining to that work.

Those in charge of the tick eradication work in the department say that this method of instructing cattle owners, especially those in the more outlying localities where the work is misunderstood and sometimes vigorously opposed, has proved most effective. Wherever these films have been shown, the county authorities report a noticeable improvement in the work of tick eradication.

Reports of these shows made to the Office of Motion Pictures state that often persons in the audience had previously seen neither motion pictures of any kind nor even electric lights. The show covers all small towns and rural school-houses in a county, making one-night stands, and the interest and appreciation of the audience is so great that even the standing room is generally taken up. The outfit covering Florida is able to give about half its shows out-of-doors, thereby enabling much larger crowds to see the films than could otherwise attend. People have been favorably impressed with the lesson of tick eradication and display a much better sentiment toward that work. By creating a more friendly feeling and clearer understanding of tick eradication, "Mollie of Pine Grove Vat" has been especially beneficial as well as instructive. In every way these shows which go on the road with their message from the Department of Agriculture are considered a great success.

WITH EXTENSION FORCES

WESTERN STATES TRAIN LEADERS

Progress in training volunteer local leaders for boys' and girls' clubs has been marked during the past year in Western States, where, to the circumstances calling for local leadership which are common to all States, is added that of the large area of the average county to be covered by the western extension agent. For some time this same circumstance perhaps delayed adoption of plans for organized training of local leaders although the need for it was keenly felt. One club leader wrote, "The distances are so great here that many of our county extension agents do not have the courage to suggest a county-wide meeting of the leaders." The growing interest of local people in club work is helping solve this problem.

The first county training school for club leaders to be held in Utah com-

pleted a two-day session at Vernal, Uintah County, the past month, with 126 leaders in attendance. This enrollment included a number of men and women from two adjoining counties which at present have no extension agents. Training was given to all in methods of organizing clubs and conducting meetings, while each project leader received, in addition, special preparation in the subject matter of the particular homemaking or production enterprise which he had volunteered to lead. Members of the State extension service assisted the county agent in the conference. Six annual State training schools for club leaders had been held at the agricultural college and because of the marked benefit derived from these, the county conference was planned in addition so that a larger number might have an opportunity to attend.

A series of county training schools is also being inaugurated in New Mexico in organization methods and subject matter, this year. A comprehensive two-day schedule for each school includes practice in conducting meetings, planning programs, contests, reports, judging, exhibits, achievement days, and social meetings, as well as in subject matter.

Washington has for some years held a State conference of local club leaders at the same time the club camp was in progress. Last year's conference was the largest yet held. A number of Washington counties maintain local club leaders' councils or organizations, which meet regularly, some of them once each month, for discussion of methods, new plans, and other organization problems, as well as for subject-matter training. In one county, Spokane, the organization is large enough to make project groups of leaders successful.

County organizations of local leaders are now functioning in four Oregon counties—Multnomah, Washington, Lane, and Jackson. Nevada's first club leaders' conference was held last year in connection with the State club encampment, with representatives from 35 clubs attending. Subject-matter training is given Montana club leaders in local conferences. Colorado has one county federation of local club leaders who meet regularly for work in organization matters and a number of subject-matter training schools are held in various counties. Leaders' conferences were held in seven Wyoming counties in 1924, working toward their ultimate goal of a leaders' conference in every county.

There were in the 11 Western States last year 4,063 volunteer local leaders, who carried to completion their work with the boys' and girls' clubs in their communities.

BRIEF REVIEWS OF NEW BULLETINS

Cow-Testing Associations and Stories the Records Tell. By J. C. Mcbowell, associate dairy husbandman, Bureau of Dairying. Pp. 22, figs. 14, June, 1925. (Farmers' Bulletin 1446.) Price, 5 cents.

The 732 cow-testing associations now active in the United States represent that many groups of improved dairy farms. What has been accomplished by these groups for the dairy industry and for the members of these associations is told in this bulletin, the purpose of which is to show the need and the value of cow-testing associations, to present briefly some of the outstanding results obtained from a tabulation of cow-testing association data, and to show how such associations may be organized and conducted.

Citrus Fruit Growing in the Southwest. By A. D. Shamel, physiologist, C. S. Pomeroy, pomologist, and R. E. Caray, assistant pomologist, Office of Horticultural Investigations, Bureau of Plant Industry. Pp. 42, figs. 17, July, 1925. (Farmers' Bulletin 1447.) Price, 10 cents.

This bulletin is the result of an effort made by the department to supply up-to-date information adequately and concisely. It will be of value to the established grower and newcomer alike in furnishing reliable information as to the most dependable methods to be followed in growing citrus fruit in the Southwest. The recent rapid growth and success of the industry has been made possible by the utilization of the results of scientific research along many lines. New methods in propagation, orchard development, frost protection, pest control, and handling and transporting the crop have been originated and introduced, which have not only made possible the profitable production and marketing of citrus fruits in the Southwest, but have also been found fundamentally important in the production and marketing of other fruit crops throughout the country.

Extension Work in Foods and Nutrition, 1923. By Miriam Birdseye, extension agent in nutrition, Office of Cooperative Extension Work and Bureau of Home Economics Co-operating. Pp. 31, fig. 1, July, 1925. (Department Circular 349.) Price, 5 cents.

Foods and nutrition work aims consciously and directly at developing a sturdy rural population with higher resistance to disease, increased physical and mental efficiency, better earning power, and a sense of greater well-being. It has had a natural growth fostered by the increasing interest of the public in health measures, especially as they affect the welfare of children; the economic stringency among farm people, which has encouraged home production and the "live at home" idea; and the better organization and improved methods developed as a result of sectional conferences of nutrition specialists. Boys' and girls' clubs present an opportunity to forward the permanent nutrition program and reports show that the idea of systematic growth work for all club members is developing. The circular is illustrated by a number of photographs, also several tables which summarize various aspects of the work.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of July 20-25, 1925. Copies

of these publications may be obtained from the stations issuing them.

Principles of making fruit-jellies. N. E. C. Schwab. (Colorado Sta. Bul. 298, pp. 27, figs. 7, May, 1925.)
Colorado pure seed law. (Colorado Sta. Bul. 300, pp. 8, June, 1925.)
Value of the tergite preceding the supra-anal plate in the classification of male Atractodes (Orthoptera). C. L. Corkins. (Colorado Sta. Bul. 301, pp. 11, figs. 25, May, 1925.)
Sheep losses in Colorado feedlots. Study No. 2. Paratyphoid dysentery. I. E. Newsum and F. Cross. (Colorado Sta. Bul. 302, pp. 18, fig. 1, June, 1925.)
How to grow and market high-protein wheat. L. E. Call, R. M. Green, and C. O. Swanson. (Kansas Sta. Circ. 114, pp. 21, figs. 2, June, 1925.)
Annual forage crops. T. A. Kieselbach and A. Anderson. (Nebraska Sta. Bul. 206, pp. 45, figs. 9, Apr., 1925.)
Thirty-fourth annual report of the University of Wyoming Agricultural Experiment Station, 1923-1924. J. A. Hill et al. pp. 163-176.

Articles by Department Workers
in Current Magazines

Adams, L. A. (Agric. Economics). How consumer surveys help in selling. *Kardex Institute* [Leaflet] July 2, 1925.
Bright, J. S. (Public Roads). Hawaiian highways. *New Mexico Highway Journal*, vol. 3, pp. 5-7, 15, June, 1925.
Capen, C. E. (Public Roads). Cumbres Pass open to traffic. *Colorado Highways*, vol. 4, pp. 6-7, 24, June-July, 1925.
Goldbeck, A. T. (Public Roads). Cement requirements for modern highway construction. *Engineering News-Record*, vol. 95, pp. 64-66, July 9, 1925.
Hall, Raymond E. (Biological Survey). Pelicans versus fishes in Pyramid Lake. *The Condor*, vol. 27, No. 4, pp. 147-160, July-August, 1925.
Hansen, A. (Plant Industry). The tie that destroys. *Better Crops*, vol. 4, No. 5, pp. 12-13, 35-36, illus. July, 1925.
Holmes, W. C. (Chemistry). Analysis of dye mixtures by means of titanous chloride. *American Dyestuff Reporter*, vol. 14, No. 11, June 29, 1925.
Irwin, H. S. (Agric. Economics). Hay-market situation. *Kansas City Drovers Telegram*, July 1, 1925.
James, E. W. (Public Roads). Reducing cost of motor roads by using more local materials. *Highway Engineer & Contractor*, vol. 13, pp. 55-57, July, 1925.
James, L. H. (Chemistry). Bacterial content of head lettuce. *American Food Journ.*, vol. 20, No. 6, June, 1925.
Jardine, W. M. (Secretary of Agric.). Wendover Road an example of cooperative endeavor. *Utah Highways*, vol. 2, No. 8, pp. 3-5, June, 1925.
Who should build main highways of Nation (Extract from address at Wendover Cut-off celebration). *Nation's Highways*, vol. 5, p. 16, July, 1925.
Linking the Atlantic with the Pacific. (Address at Wendover Cut-off celebration). *Motor Land*, vol. 17, pp. 12-13, 37, July, 1925.
Kellerman, K. F. (Plant Industry). Bacterial inoculation useless for growing grass. *Bulletin of the Green Section, U. S. Golf Association*, vol. 5, p. 155, July, 1925.
MacDonald, Thomas H. (Public Roads). Federal Aid Denied Road-labor Road Work in Arizona. *New Mexico Highway Journal*, vol. 3, pp. 14-15, June, 1925.
Mcatee, W. L. (Biological Survey). The goose pastures of Louisiana. *Holland's Magazine*, vol. 44, No. 8, pp. 14-15, 68, August, 1925.
Morrison, B. Y. (Plant Industry). Narcissus for the honor roll. *Garden Magazine and Home Builder*, vol. 41, pp. 488-491, illus. August, 1925.
Oakley, R. A. (Plant Industry). The economics of increased legume production. *Journal of American Society of Agronomy*, vol. 17, pp. 373-379, July, 1925.
A tribute to grass. *Bulletin of the Green Section, U. S. Golf Association*, vol. 5, pp. 160-163, 1925.

Piper, C. V. (Plant Industry). Growing grass turf and raising crops. *Bulletin of the Green Section, U. S. Golf Association*, vol. 5, pp. 156-157, July, 1925.
Two new species of Canavalia. Publication of the Field Museum Natural History Botanical Series 231 (vol. 4, No. 4) p. 94, June, 1925.
Proudley, C. E. (Public Roads). Effect of grading on sand strength ratios. *Highway Engineer and Contractor*, vol. 13, pp. 33-34, July, 1925.
Ransom, Webster H. (Biological Survey). Old squaw duck taken in Franklin County, Washington. *The Murrelet*, vol. 6, No. 1, p. 11, January, 1925.
Safford, W. E. (Plant Industry). Foods discovered with America. *Scientific Monthly*, vol. 21, pp. 181-186, August, 1925.
Shapovalov, Michael (Plant Industry). Ecological aspects of a pathological problem (Western yellow blight of tomatoes). *Ecology*, vol. 6, pp. 241-259, illus. July, 1925.
Slocum, R. R. (Agric. Economics). Needed investigation of the factors affecting egg quality. *Poultry Science*, June-July, 1925.
Sherman, Caroline B. (Agric. Economics). The farm labor problem. *American Bankers Assoc. Journal*, July, 1925.
Tenny, Lloyd S. (Agric. Economics). Universal cotton standards. *American Review of Reviews*, August, 1925.
Trumbower, H. R., E. L. Browne, and A. H. Morris (Public Roads). Transporting milk by motor truck. *Automotive Manufacturer*, vol. 57, pp. 20-21, June, 1925.

CIVIL SERVICE ANNOUNCEMENTS

Junior Librarian, \$1,860; Library assistant, \$1,680; junior library assistant, \$1,500; under library assistant, \$1,320; minor library assistant, \$1,140. Vacancies in the Department of Agriculture and other branches of the Departmental service, Washington, D. C., and in positions requiring similar qualifications throughout the United States, will be filled from this examination. Advancement in pay may be made without change in assignment up to \$2,400 a year for junior librarian, \$2,040 a year for library assistant, \$1,860 a year for junior library assistant, \$1,680 a year for under library assistant, and \$1,500 a year for minor library assistant. Applications should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close August 29, 1925.

Principal stenographer, \$1,680; senior stenographer, \$1,500; head typist, \$1,500; senior typist, \$1,320. (Departmental service, Washington, D. C.) Vacancies in the Departmental service, Washington, D. C., and in positions requiring similar qualifications, will be filled from the these examinations. Advancement in pay may be made without change in assignment up to \$2,040 a year for principal stenographer, up to \$1,860 a year for senior stenographer, up to \$1,680 a year for head typist, and up to \$1,500 a year for senior typist. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close September 4, 1925.

Mahmoud Samy Pacha, envoy extraordinary and minister plenipotentiary of his Majesty the King of Egypt, recently made an official call upon Secretary Jardine.

A. Loveridge, a well-known herpetologist, who has done a great deal of collecting in German East Africa, was recently in Washington in connection with studies of the Roosevelt African Collection and spent a short time visiting in the department.

PRINCIPAL LIBRARY ACCESSIONS

MILLING

Pearson, E. L. Organization and management in the flour milling industry. London, Sir I. Pitman & sons, 1925.

TEXTILES

Kneeland, Natalie. Infants' and children's wear. Chicago, A. W. Shaw, 1925.
Ringo, F. J. Draperies. Chicago, A. W. Shaw, 1925.
Ringo, F. J. Linen and bedding. Chicago, A. W. Shaw, 1925.

FATS AND OILS

Teixeira da Fonseca, Erico. Oleos vegetaes brasileiros. Rio de Janeiro, Typ. v. Revista dos Tribunaes, 1922.

RADIOACTIVITY

Dorsey, N. E. Physics of radioactivity. Baltimore, Williams & Wilkins, 1921.

ENZYMES

Bayliss, Sir W. M. The nature of enzyme action. 5th ed. London, Longmans, Green, 1925.

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Tabulae biologicae. v. 1. Berlin, W. Junk, 1925.

ZOOLOGY

Meek, M. W. Fur rabbits. Arcadia, Calif., M. W. Meek, 1924.
Patton, Hardison. Raising fur-bearing animals. Chicago, C. V. Ritter, 1925.

PATHOLOGY

Mense, C. A. Handbuch der tropenkrankheiten. v. 1-2. 3. auff. Leipzig, J. A. Barth, 1924.

BOTANY AND HORTICULTURE

British museum (Nat. hist.) Dept. of botany. A monograph of the Mycetozoa. 3d ed. London, 1925.
East, E. M., and Weston, W. H., jr. A report on the sugar cane mosaic situation in February, 1924, at Soledad, Cuba. Cambridge, 1925. (Contributions from the Harvard institute for tropical biology and medicine, 1.)
Hitchock, A. S. Methods of descriptive systematic botany. New York, Wiley, 1925.
Rivore père et fils. Les fleurs de semis. Lyon, 1925.

ECONOMICS AND STATISTICS

American management association. Office executives' division. Committee on salary standardization. Report. New York, 1925.
Association of British chambers of commerce. The chambers of commerce atlas. London, G. Philip & son, 1925.
Jones, W. D. An introduction to economic geography. v. 1. Chicago, University of Chicago press, 1925.
Keynes, J. M. The economic consequences of the peace. New York, Harcourt, Brace, and Howe, 1920.
Lutz, H. L. Public finance. New York, Appleton, 1924.
Ross, E. A. Roads to social peace. Chapel Hill, N. C., University of North Carolina press, 1924.
Smith, D. H. An economic geography of Europe. London, Longmans, Green, 1925.

REFERENCE BOOKS.

Poggendorf, J. C. Biographisch literarisches handwörterbuch. bd. 5, abt. 1. Leipzig, Verlag chemie g. m. b. h., 1925.

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Brazil-medico; revista semanal de medicina e cirurgia. anno 33, v. 1, no. 25—June 20, 1925—Rio de Janeiro.
Eos; revista española de entomología. (quarterly) t. 1, no. 2—June 25, 1925—Madrid.
Netherlands, Rijksvoorlichtingsdienst ten behoeve van den verzelhandel en de verzelij-verheid te Delft. Mededeelingen no. 1—Dec. 1921—Delft.
Revista quincenal de precios; publicación ilustrada dedicada a los agricultores y ganaderos de la República Argentina. año 1, no. 1—June 13, 1925—Buenos Aires.

Rumania. Ministerul agriculturii si domeniilor, Directiunea generala zootehnica si sanitara veterinara. Buletinul. anul 6, no. 1/3—Jan./Mar. 1925—Bucuresti.
Seald-sweet chronicle (semi-monthly) v. 1, no. 1—June 1, 1925—Tampa, Fla.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

New Jersey.—James R. Porter has been appointed as county club agent in Morris County to take the place of Edwin A. Gauntt who has become assistant specialist in dairying. Miss Mildred B. Murphey has been appointed home demonstration agent at large with headquarters at the State college, and Alice B. Clifford will succeed Mrs. Annie H. Stickle, resigned, as home demonstration agent in Sussex County. Leslie M. Black has been appointed assistant specialist in poultry husbandry.

Washington.—Mary O. Howe has been appointed extension clothing specialist to succeed E. Belle Alger, resigned, and A. R. Chase has succeeded Roy Larson, resigned, as county agent of Chelan County.

RECENT AND FORTHCOMING EVENTS

The Nebraska extension service held its first mothers' vacation camp in the State, June 16-19, in Scotts Bluff County. Fifty-four farm women attended, representing 16 community clubs. Features of the program were discussions of child and adult nutrition, recreation for home and community, bird study, and parliamentary practice. Setting-up exercises, games, singing, and stunts about the campfire made a real vacation of the event. The camp was in charge of Grace Henderson, county home demonstration agent, assisted by Mary Ellen Brown, State home demonstration leader, Florence Atwood, nutrition specialist, and representatives of other educational agencies in the State. A second vacation camp, for farm women of Fillmore County, will be held August 12-14, at Crete.

A luncheon was given recently by the farmers of Redwillow County, Nebr., to the business men of the county seat for the purpose of promoting a better understanding of matters in which both groups are interested. Plans for the occasion were made by County Agent I. S. Ulrich and members of the county extension organization. One hundred and twenty men attended. Four farmers and the president of the chamber of commerce gave talks. On a similar occasion in another town of the county, 150 men

were present and a community club was organized.

A tour and conference of members of the New Jersey extension staff, both county and State, took place July 30, 31, and August 1. The tour started at the College of Agriculture where experimentation work with fruits and vegetables were studied, and proceeded to a representative dairy farm in Middlesex County. Three farms in north Jersey were visited the next day for the purpose of studying farm management, poultry, and farm forestry practices, respectively. The week end was spent at a lake resort in Morris County where there was opportunity for recreation as well as general discussion of extension matters.

The widow of Ray H. Camp, county agricultural agent of Hamilton County, Nebr., who was fatally injured by a premature explosion during a blasting demonstration which he was conducting on April 22, has been granted compensation by the United States Employees' Compensation Commission, for herself and her children. The awards are based on the total salary paid Mr. Camp from Smith-Lever and other Federal funds.

LISTS OF FUR FARMERS AVAILABLE

The fur-farming industry is growing rapidly, and certain phases of the occupation are becoming a permanent addition to agricultural development. With these facts particularly in mind the Bureau of Biological Survey sends out annually questionnaires to fur farmers for the purpose of compiling a list of the names and addresses of fur-animal breeders in the United States. A similar list of Alaska breeders is also compiled.

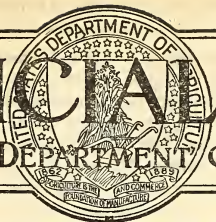
It is estimated from the latest statistics obtained from these questionnaires that there are approximately 2,000 fur farmers in the United States and Alaska engaged in the production of one or more species of fur-bearing animals, the majority of whom are raising silver and blue foxes. The total investment in the business is between \$15,000,000 and \$18,000,000.

The lists mentioned above may be obtained free upon request to the Bureau of Biological Survey.

Continued reports are received by the Bureau of Entomology to the effect that the general destructive prevalence of cut worms, extending from Maine to Oregon and south to the Gulf, continues. Practically every State from which reports were received mentioned their serious abundance.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., AUGUST 12, 1925

No. 32

BRAZIL EXPLORED FOR NEW GRASSES

Mrs. Chase Brings Back Many Valuable Additions to National Herbarium Collection

After seven months of exploration in the hinterland of Brazil, Mrs. Agnes Chase, an agrostologist in the Bureau of Plant Industry, has returned with a collection of valuable grasses and a few other plants, which will add greatly to the present fund of information about that region and to the collection in the National Herbarium.

Panama and the West Indies and Brazil have many species of plants in common. Brazil was explored botanically earlier than were the North American Tropics, and the species were earlier described. In order to work up the flora of the North American Tropics it is necessary, therefore, to have a fairly accurate knowledge of the flora of Brazil.

Department's Herbarium is Most Valuable

The Grass Herbarium of the department is the largest and most valuable grass herbarium in the world and is particularly rich in the grasses of America, North and South. During the last 40 or 50 years Swedes, Germans, Swiss, and English have made extensive collections in the southern States of Brazil, Rio de Janeiro, São Paulo, Santa Catharina, Rio Grande do Sul, Paraná, and Matto Grosso, and to a less extent in the Amazon region. Sets of these collections have come to the National Herbarium in exchange for North American plants. There was, however, no United States National Herbarium a century ago, when the earlier collections were made in Brazil, upon which were based the principal publications on the Brazilian flora.

For some years Doctor Hitchcock and Mrs. Chase, of the Grass Herbarium, have been, from time to time, publishing

revisions of the larger and more important genera of North American grasses, including in their work the Tropics of North America. Mrs. Chase has been working for some years on a revision of Paspalum, the largest genus of grasses in America, containing some of our important forage grasses, and particularly abundant in South America. In order to acquire a better knowledge of this critical group and also to obtain specimens from parts of Brazil but poorly represented in the Grass Herbarium, Mrs. Chase made this trip.

Six Weeks Spent in Pernambuco

Beginning work in the north at the beginning of the dry season, Mrs. Chase spent six weeks in Pernambuco, near the coast and in the interior. The sertão, as the arid or semiarid interior is called, is an endless succession of hills, mostly between 2,000 and 2,500 feet altitude, covered with low open woods, called "catatinga," much like parts of western Texas and New Mexico. In November much of this scrub was leafless but gorgeous with yellow, purple, pink, and creamy flowers. The country is badly overgrazed, like western Texas and New Mexico, by horses, donkeys, goats, and sheep. The native grasses have been almost exterminated, except in ravines and places not easily reached by grazing animals. Bermuda grass, called "capim de planta," is the best ground cover at present. If given opportunity it would shortly revegetate the barren grazing grounds.

(Continued on page 5)

Secretary Jardine Taking Brief Rest in Hospital

Secretary Jardine entered Walter Reed Hospital on August 4 for a brief rest. He has been suffering from a slight stomach disorder for a number of years, and although it has responded satisfactorily under treatment he felt it advisable to take a rest for a short time in order completely to restore his health. There is nothing disturbing about his condition and plans have been made for him to handle his official duties during his stay in the hospital.

HIGHWAY BOARD HOLDS FINAL MEETING

Recommends Standard Signs For Use on Proposed System of Interstate Roads

The Joint Board on Interstate Highways, which met at the Bureau of Public Roads in Washington on August 3 and 4, adopted a system of interstate roads and a series of standard danger, caution, direction, and informational signs which it will recommend for use in marking and signing the system selected.

The system adopted will now be mapped and as promptly as possible a full report will be made to the Secretary of Agriculture, by whom the board was appointed last February.

Numbers and Markers for Selected Routes

The selected routes were numbered in accordance with a system evolved by a subcommittee of the board at the session on August 4. The standard route marker will be a typical United States shield painted white on which will appear, in black, the name of the appropriate State, the initials U. S., and the route number. If possible the route numbers will be limited to two digits for easy reading, and steps will be taken to prevent the use of the standard marker for any purpose other than for the marking of the selected system of interstate roads.

Other standard signs adopted by the board were as follows:

A white shield in a smaller size than the route marker on which will be printed the letters R or L as a precautionary warning on the approach of curves or turns in the routes. A similar sign, with the addition of an arrow pointing in the proper direction, will be posted immediately at the turn.

Signs Will Have Yellow Backgrounds

A circular sign 24 inches in diameter with a yellow background and bearing

the familiar railroad cross in black with the letters R R also in black in the upper quadrants has been adopted for use at railroad grade crossings in all States in which existing laws permit the use of such a sign; and the board recommends that the use of the sign be authorized by suitable legislation in all States.

The standard stop sign adopted is a regular octagon with the word "Stop" in black letters on a yellow background.

The caution signs are diamond shaped, with a yellow background on which are superimposed the warning words and symbols giving notice of curves, hills, loose gravel, etc., ahead. In addition to these cautionary signs provision has been made for the use of "look" or "attention" signs to be used sparingly on approaching schools and other points at which caution may be necessary. These signs will be square, with a yellow background and black letters.

In the selection of colors and shapes the board has been guided by the principle that all signs indicating the necessity for any degree of caution will be yellow. The degree of caution required will be indicated by the shape of the signs as well as by the words and symbols on them. Thus a round sign will always indicate a railroad crossing; an octagonal sign will indicate positive danger and will call for a complete stop; a diamond-shaped sign will be equivalent to a command to proceed with caution; and a square, yellow sign will call attention to the need for a lesser degree of caution.

Informational Signs Will be Rectangular

In addition to the warning and cautionary signs standards were also adopted for various forms of informational and directional signs, all of which are to be rectangular in form and to have a white background with black letters.

With respect to luminous signs the action of the board at its April meeting remains unchanged. The colors approved are red for danger or stop, yellow for caution, and green to indicate "Go."

The members of the board were guests at dinner August 4, at the Congressional Club, of the Official Delegation to the Pan American Congress of Highways to be held in Buenos Aires, October 3 to 13.

During the evening Thomas H. MacDonald, chief of the Bureau of Public Roads, and a member of the official delegation, was presented with an outfit for his trip by the members of the American Association of State Highway Officials.

A letter was read from the Secretary of Agriculture expressing his regret at being unable to be present, and also expressing his appreciation of the cordial good will existing between the State

highway officials and the Chief of the Bureau of Public Roads.

Members of the delegation to the Pan American Road Congress are H. H. Rice, Charles M. Babcock, F. L. Bishop, William E. Hull, Thomas H. MacDonald, Frank Page, and G. A. Sherwell.

Soybean Growers Will Tour to Field Meeting in Washington

The National Soybean Growers' Association will hold its sixth annual field meeting in Washington, D. C., September 1-3, inclusive. Extensive plans are being made to entertain and instruct the members who attend. It is expected that representatives from all over the country will be present.

Reports from Prof. J. C. Hackleman, University of Illinois, state that many Illinois farmers who for a long time have wanted to visit Washington, and who are intensely interested in soybeans, are planning to avail themselves of the present opportunity to attend and expect to make the trip in buses. Arrangements to this end are being made at the Agricultural Experiment Station at Urbana, Ill. The buses will be at the disposal of the travelers while in Washington to go sight-seeing and to visit Arlington Cemetery and Mount Vernon. On the return journey a side trip to Gettysburg will be made. The Washington Tourist Camp, situated near the Potomac River, offers excellent accommodations for those who desire to camp. Excellent camping grounds are also available at Union Farm, Va., about 14 miles from Washington.

The first meeting will be held on Tuesday morning, September 1, at Arlington Experimental Farm, which is a portion of the old Robert E. Lee estate lying next to Arlington National Cemetery. Here Secretary of Agriculture Jardine will give an address of welcome. The Secretary will be followed by Dr. W. A. Taylor, chief of the Bureau of Plant Industry; Dr. C. V. Piper, also of that bureau; and E. C. Butterfield, superintendent of the farm. After luncheon at the farm there will be an exhibit of soybean products and an inspection of the 75 acres of soybean experiments, including 1,000 new varieties and selections. In the evening a meeting will be held in the auditorium of the New National Museum. Talks on the production, economic value, and many uses of the soybean will be given by growers, manufacturers, and specialists in research from different sections of the country. Three department motion pictures, including "Four men and the soy," will be shown during the evening.

On Wednesday the delegates will motor to Union Farm, Va., owned originally by Gen. George Washington, to inspect large acreages of beans for seed, inoculation experiments, and extensive harvesting demonstrations. Union Farm, located about 1 mile from Mount Vernon, played an important part in the early agricultural development of this country. It was here that Washington carried on his experiments in soil improvement and practiced methods of farming then far in advance of his time. An address will be given by Dr. T. B. Hutcheson, of the Virginia College of Agriculture, followed by others who will present papers on various aspects of soybean problems. After luncheon at Union Farm there will be an inspection tour of fields, variety, culture, and inoculation experiments with row and broadcast harvesters. The party will then visit George Washington's home, Mount Vernon.

The morning meeting of the last day will be held at College Park, Md. Here Dr. C. W. Woods, president of the Maryland State University, will give an address. A discussion will follow, led by growers and specialists from various sections of the country. Luncheon will be served on the college campus, after which a field inspection of soybean experiments at the Maryland Agronomy Farm will take place. In the afternoon the party will return to Washington.

TO DEVELOP AN EXTENSION PROGRAM

The Bureau of Agricultural Economics is cooperating with New Jersey in the development of the economic basis of an agricultural extension program for that State. Other cooperating agencies are: New Jersey Agricultural Experiment Station, extension division of the agricultural college and the State department of agriculture.

The plan of the work includes determining the boundaries of the principal type-of-farming areas in the State by an analysis of the 1920 census data and other data available; collecting all information available on trends of production in New Jersey and other areas and analyzing it to determine the market competition that New Jersey products will have to meet in the future; re-analyzing farm management studies made in former years to determine the types of organization that paid best; revisiting a number of outstanding farmers in each type-of-farming area to determine the organization that pays best under present conditions; establishing a standard organization for a farm of typical size in each area and showing conditions under which variations will pay.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

WORLD WHEAT CROP GAINS

Wheat production in 17 countries is now placed at 2,110,000,000 bushels, against 2,065,000,000 bushels produced by the same countries last year, according to official estimates received up to August 3 by the department. Conditions in the Danubian countries continue favorable. Production forecasts now available from Hungary, Bulgaria, and Rumania show substantial increases over last year. No forecasts have yet been received from Austria, Yugoslavia, or Czechoslovakia, but condition reports from these countries indicate yields above average.

SOUTH AFRICAN CORN CROP INCREASED

Corn production in the Union of South Africa for the 1924-25 crop is now estimated at 73,214,000 bushels, according to a cablegram received by the department from the International Institute of Agriculture at Rome. This is somewhat larger than the previous forecast for this season of 64,300,000 bushels and considerably above the preliminary estimate of 39,996,000 bushels for the 1923-24 crop.

PACKAGE MANUFACTURERS PESSIMISTIC

Manufacturers of fruit and vegetable baskets are pessimistic over the present outlook. Crops of some commodities have not been as large as expected. Manufacturers accordingly face the prospect of carrying over baskets manufactured in anticipation of crops that did not materialize. Many new basket factories have been started during the last five years, and the resulting competition has created an unhealthy condition in the industry, says the department. There are always too many container factories in a poor crop year. It is now a question whether there are not too many for a good year, the department declares.

USE DEPENDABLE DISINFECTANTS

In the disinfection of premises and buildings and in preparing dips for livestock, products of known dependability are essential for satisfactory results. For many years the Bureau of Animal Industry has conducted extensive research and thousands of field tests with dips and disinfectants. Accordingly, it is

prepared to give detailed information on the subject. Livestock owners may consult the bureau's veterinary inspectors or may obtain suitable bulletins dealing with disinfection and sanitation on application to the United States Department of Agriculture, Washington, D. C.

Improvements Made in Cotton Production in the United States

To avoid serious competition from foreign countries the cotton farmers of the United States should produce cotton of better and more uniform fiber. Intensive studies of the problems of cotton production in the United States since the boll-weevil invasion have shown several causes of gradual deterioration in the quality of the fiber and lower yields per acre, and the removal of these causes of deterioration is one of the most important ways of making good the losses occasioned by the boll weevil.

The planting of seed of different varieties of cotton in the same neighborhood, the intercrossing of these varieties in the fields, the mixing of the seed at the public gins and the general use of gin-run seed for planting are especially important causes of deterioration.

The production of poor fiber and low acre yields from mongrelized gin-run seed has been the underlying reason for the popular idea that cotton varieties "run out" and that fresh seed must be brought in every few years from other districts. It has been shown, however, that selected seed stocks that have not been allowed to become mixed may be grown continuously in the same districts for many years, with no indication of "running out."

Wider utilization of superior varieties is going forward more rapidly through a plan of organizing one-variety cotton communities as centers of seed supplies where supplies of pure seed are grown, sufficient for general planting in the region, and where uniform high-quality cotton is produced in the commercial quantities that manufacturers require.

In the last few years a number of superior varieties of cotton have been developed by the Bureau of Plant Industry, better adapted to purposes of production under weevil conditions, maturing earlier and larger crops, and producing fiber of better quality. Among the more prominent of these are the Acala, Lone Star, and the Pima variety of Egyptian cotton grown in the Salt River Valley of Arizona. Hundreds of thousands of acres have been planted with these varieties and crops of aggregate values of many millions of dollars produced, as well as a general stimulation

of interest in better varieties and better seed.

The Acala cotton has been developed from imported seed obtained in southern Mexico by representatives of the bureau. It is largely grown in Texas, Oklahoma, Arkansas, Arizona, and California, on account of earliness, drought resistance, easy picking, and superior quality of fiber, and its cultivation is increasing as rapidly as supplies of good seed can be developed. In several of the irrigated valleys of California it is the only variety now being grown. The fiber attains a length of 1½ inches under favorable conditions and secures a premium of from 2 to 8 cents a pound over varieties with shorter staples.

The Lone Star cotton belongs to the Texas Big Boll type with Triumph and Rowden, but with superior fiber, and is now grown largely in the chief cotton-producing regions of Texas and adjacent States.

The Pima Egyptian cotton, with a fine, silky, strong fiber from 1½ to 1¾ inches in length, is the basis of a new Egyptian cotton industry in Arizona and California in irrigated districts that grew no cotton only a few years ago.

The production of cotton is also being improved by the application of new cultural methods, based on the discovery that the restriction of the size of the plants will shorten the growing season and often will greatly increase the yields in the presence of the boll weevil, and under short-season conditions along the northern rim of the Cotton Belt. By the simple expedient of leaving the plants closer together in the rows, increases of yields of 50 per cent and upward have been obtained in many test cases and a general estimate of at least 10 or 15 per cent would be justified to illustrate the value of this improvement.

Herr Valerian Obolensky, professor in the Agricultural High School at Moscow, was a visitor at the department last week.

A representative of a New York film corporation visited Lake Malheur Reservation, Oreg., in June to make motion pictures of the birds there. In July a representative of a New York news reel company visited Three Arch Rocks Reservation, also in Oregon, to obtain pictures of wild life at that refuge.

The school for hay inspectors conducted at Auburn, Ala., under a cooperative agreement with the Alabama Extension Service, the Alabama Department of Agriculture and Industries, and the Bureau of Agricultural Economics of the department has just been brought to a successful conclusion.



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NATIONAL ENCAMPMENT OF U. S. W. V.

A communication from the Office of Personnel and Business Administration states that employees of the department who are members of the United Spanish War Veterans and desire to attend the national encampment of the order to be held in St. Petersburg, Fla., September 27 to October 1, 1925, should be allowed to do so, provided they can be spared without detriment to the public service. The time consumed must necessarily be charged to annual leave or, if annual leave is exhausted, to leave without pay, as no increase in the legal allowance of leave with pay can be granted for this purpose.

LIBERATE NEW GIPSY MOTH PARASITES

Three different species of gipsy moth parasites not yet established in the moth-infested area of New England were liberated in that region this season by entomologists of the department. Eight distinct species had been established there previously.

Some of the European tachinid parasites of the gipsy moth liberated were obtained from several parts of Europe last summer and were successfully hibernated in the hibernating cages in the laboratory yard at Melrose Highlands, Mass.

One small colony of mated adults of another gipsy moth larval parasite also was liberated this spring. These flies were obtained by collecting the cocoons of the pine sawfly, one of the hibernating hosts of the species in southern Poland early this spring. The cocoons were taken to Bremen, Germany, where the parasites were reared and shipped to the Melrose laboratory as puparia. A strong colony of about 1,500 adults of a small wasplike parasite has also been liberated in an area which is badly infested by the gipsy moth this season. These parasites were obtained by men sent to southern Poland and parts of Czechoslovakia,

where they were very abundant this year.

The spring colonization of the Anastatus parasite of gipsy moth eggs, which is well established in the inside moth-infested territory, has been completed. More than 2,500,000 of these parasites were liberated during the spring outside the area where the species is now common.

DR. S. E. BENNETT

Dr. S. E. Bennett, for many years connected with the Bureau of Animal Industry, was killed in an automobile accident at Chicago August 3. Doctor Bennett was one of the most prominent employees of that bureau in the field. He entered the service January 15, 1896. He served successively as inspector in charge of the meat-inspection forces at Milwaukee, Kansas City, Boston, and Chicago.

While in charge at Boston the country was visited with its first serious outbreak of foot-and-mouth disease, and he was placed in charge of the work of eradication. His energy and success in this task were such that when the disease appeared in 1908 he was called upon to direct the forces in Pennsylvania and Maryland, where also he succeeded in promptly suppressing the epidemic. Again, in the outbreak of 1914, he had charge of the eradication forces in Illinois, where the disease was widespread and where the problems were of the most perplexing character.

In July, 1915, Doctor Bennett resigned from the bureau to accept a place with the Union Stock Yards & Transit Co. at Chicago. In this position he kept in close touch with the activities and personnel of the bureau, and upon the outbreak of foot-and-mouth disease in California in 1924 the bureau again sought him to help in the campaign, as he was regarded by the agricultural and livestock interests of the nation as one of the most efficient field men in the entire country in a hand-to-hand combat with contagious animal diseases.

Doctor Bennett was born in Ohio and was 56 years of age.

A CORRECTION

IN THE OFFICIAL RECORD for July 22 the item on page 5 relating to importations of red clover seed in 1923 should have read "500,000 pounds."

The National Association of Retail Meat Dealers at its meeting at Omaha, Nebr., last week passed a resolution giving unqualified approval of the manner in which the department conducted the recent retail meat study and indorsed the report in every particular.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Are sand fleas different from the fleas which commonly attack man and animals?

Answer. There is some confusion concerning the term "sand flea." Certain small crustaceans found on sandy beaches, although harmless, are popularly referred to as sand fleas, because of their jumping habit. Likewise, most people upon encountering real fleas in sandy places refer to them as sand fleas. In this connection the name is a misnomer. All true fleas are dependent upon blood for their existence. An animal host is therefore necessary at some stage in the existence of every flea for its survival. Flea eggs for the most part are deposited upon the host by the females while feeding. The eggs drop off to the ground and here they hatch. If animal refuse is already present or another host comes along, development continues; but in case no food is available the young larvae perish. However, fleas are capable of living several months without food.

Question. Does the Federal Department of Agriculture have seeds of wild-duck food plants for distribution?

Answer. No; the Federal Department of Agriculture does not distribute the seeds or other parts necessary for the propagation of wild-duck food plants. These can be purchased from numerous dealers, and lists of the dealers are furnished by the Biological Survey.

Question. Does the department recommend the grinding of feed for dairy cattle?

Answer. Grain feed should always be ground or crushed for dairy cows. Roots should be sliced or pulped. For very young calves the grain should be ground or crushed. After the calves have learned to eat grain, however, corn and oats give as good or better results if fed whole; but extremely hard grains, such as barley or wheat should always be ground. After calves are eight months of age they should again have all their grain ground. It seldom pays to grind a good quality of hay for dairy cows. If the hay is of poor quality, such as improperly cured or with a large proportion of stems, it may be advisable to grind it. Grinding does not increase the feeding value, but it may insure less waste in feeding and a greater consumption.

EXTENSION NEWS ITEMS

CHANGES IN PERSONNEL

Montana.—E. Miriam Hawkins has been appointed home management specialist to succeed Gertrude Hoffman.

Wyoming.—C. S. Llewellyn has been appointed county agent for Hot Springs County to take the place of P. T. Fortner, resigning August 15.

FORTHCOMING EVENTS

Farmers' Week will be held in Arkansas at the State University August 11 to 14, and the annual conference of extension workers will take place at the same place August 15 to 18.

LAKE NAMED FOR DR. F. V. COVILLE

The name Lake Coville, recently adopted by the United States Geographic Board for use on Government maps, was given by its discoverer, Robert F. Griggs, leader of the National Geographic Society expeditions to Alaska, which explored Mount Katmai volcano and the surrounding region and discovered the Valley of Ten Thousand Smokes. In christening the lake Doctor Griggs said that it was named for Frederick V. Coville, one of the two men by whose vision and support the Katmai expeditions were made possible.

Doctor Coville, who is a member of the Bureau of Plant Industry, has made botanical explorations in Alaska, has published several papers describing new plants from that region, and is at present engaged in the preparation of a flora of Alaska. He has long been interested in these botanical and geological explorations and has advocated the utilization of the enormous pasturage facilities of the nontimbered portions of Alaska, aggregating millions of acres.

Lake Coville is on the Alaska Peninsula, about 40 miles northwest of Mount Katmai; it is partly surrounded by mountains, but extends out into the coastal plain.

BRAZIL EXPLORED FOR NEW GRASSES

(Continued from page 1)

A new road has recently been made from Garanhuns, the end of the railroad, to the southwest of Pernambuco, to Pedra, Alagoas, about 25 kilometers from Paulo Afonso Falls, in Rio São Francisco. Taking advantage of this road and of the dry season (for Pedra is cut off by floods during the rainy season)

Mrs. Chase visited these falls, which are 610 feet in height, higher than Niagara and of greater volume. The region had not before been visited by a botanist and much was expected of it, but the desert extends to the vast river, even the canyon walls being almost devoid of vegetation. As elsewhere, when grasses were scarce other plants were collected.

Certain Regions Show Overgrazing

A month was spent in Bahia, about the bay, and a trip was made across the State to Joazeiro on Rio São Francisco. Like the sertão of Pernambuco the region about Joazeiro is overgrazed, and with even more disastrous consequences, for the light alluvial soil, uncovered by the removal of the vegetation is carried off by the floods in the rainy season and is drifted ceaselessly by the wind during the dry season.

About a month was spent in the State of Rio de Janeiro. With a small party from the Jardim Botânico, Mrs. Chase visited Itatiaia, one of the two disputed highest points in Brazil. From the railroad the party traveled on horseback, with pack animals. A night was spent going and returning at the Florestal, a station where the Jardim Botânico is carrying on work, on Mont Serrat, affording opportunity for collecting in this typically tropical forest country. From Mont Serrat to the summit of the mountain and for some miles beyond on the Minas Geraes side the country is a Federal reserve under the charge of the Jardim Botânico. One day was spent making the ascent from Mont Serrat to a rest house, about 2,100 meters altitude a short distance below timber line. The third day the party ascended the Agulhas Negras ("Black Needles"), the culminating point of Itatiaia. This was long known as the highest point in Brazil and was said to be 2,994 meters altitude. Recent measurements, however, give a lower altitude, about 2,830 meters. From the summit Mrs. Chase made the three days' return journey on foot, collecting the grasses. The high campos above timber line were covered with grasses, large and small. The trail borders and mountain slopes also yielded a rich harvest.

Minas Geraes Richest in Grasses

The State of Minas Geraes, nearly as large as Texas, was the main objective, and from the end of the rainy season in early February to the end of fall in May Mrs. Chase collected in this region. The flora is very different from that of the regions earlier visited. The high hills are covered to a large extent with open or brushy campos. From about Bello Horizonte north and east this campos type was seen at its best and

was the richest grass country anywhere seen. Agriculture in Minas is far in advance of that in Pernambuco and Bahai. There are good roads in some parts far in the interior, and one sees clean cultivation and good-looking animals. Mrs. Chase visited Vicosã, where Dr. P. H. Rolfs, formerly director of the experiment station at Gainesville, Fla., is establishing a school of agriculture for the State of Minas Geraes. Of special interest were the fine plantations of forage grasses and tropical fruits and also a row of thrifty little chaumoogra trees. There is much leprosy in Brazil, hence the importance of these trees.

With Doctor Rolfs and his daughter, Mrs. Chase visited Serra da Gramma, and with Miss Rolfs Serra do Caparaó, high mountains in the eastern part of the State. Pico da Bandeira, the culminating point of Serra do Caparaó, is now said to be the highest point in Brazil, 2,884 meters. Owing to bad weather and a guide who did not know the way, they climbed Pontão do Crystal, 2,798 meters high, instead of Pico da Bandeira. A large collection of interesting grasses was obtained.

During the trip Mrs. Chase obtained nearly 20,000 specimens, including about 500 species of grasses, some of which were not before known from Brazil, and some undescribed.

Prof. Lester Briggie, who has been connected with the Woman's College at Constantinople for the past six years, was a visitor at the department on July 29. Professor Briggie will return to Turkey the middle of September and will be located at Angora (mail address, American Embassy, Constantinople, Turkey), where he will be connected with the Turk-American Association in the capacity of agricultural adviser. His visit to the department was for the purpose of establishing contacts with agricultural workers. Such contacts should be mutually helpful as Professor Briggie will be in position to supply seeds and plants native to Turkey and to assist materially any agricultural worker who may visit that country. He desires to receive from agricultural workers publications that may be of use in connection with his agricultural work in Turkey. Any assistance in this or other respects will be much appreciated.

Federal-State shipping point inspection is being used by the Carolina Cooperatives, Consolidated, a recently formed organization of cooperative associations. In the three last months 15 cars of dewberries and 128 cars of peaches have been inspected for the consolidated organization.

WITH EXTENSION FORCES

BANKERS STUDY FARMING

In the belief that a more definite understanding of the problems involved in modern farming by Nebraska bankers would enable them to serve their farming communities more effectively, a bankers' agricultural short course was held at the college of agriculture, June 22-23. About 200 bankers, representing financial institutions in all parts of the State, attended.

The course was, of necessity, a very full one and preliminaries were reduced to a minimum. Plans for the course were made by the agricultural extension service with the cooperation of members of the college of agriculture and experiment station staffs.

Discussion at the first morning session centered about soils. Soil values, methods of determining them, and soil problems were first presented. The Nebraska system of soil management, factors in soil depletion, and methods of maintaining fertility were then discussed. Talks on improved crops, methods of improvement, distribution and importance to farmer and banker, and on the legumes adapted to Nebraska, their uses and relative values, completed the first section of the program. Time for general discussion was allowed after each subject at all sessions.

On the second morning the study of soils was resumed. Talks on soil factors that enter into the safety and profitability of raising wheat in Nebraska, soil washing, and methods of conserving soil and preventing erosion were followed by an open-house discussion on diversification from the crops and economics standpoints.

In the afternoons the students were divided into two groups, alternating in attendance at two programs which were repeated for both afternoons. One afternoon was spent in dairy husbandry work. The principal points to look for in selecting a dairy cow and the importance of measurement of production of individuals were first discussed, then followed by some practice in dairy judging.

Sheep and swine husbandry topics filled a second afternoon. The economic possibilities as well as the management of a small flock of sheep on the farm, the value and use of various hog feeds, and the methods and accomplishments of hog-lot sanitation were subjects studied. Visits to the agronomy farm closed the bankers' two days of agricultural schooling.

The short course is part of a plan for advancing cooperation between bankers,

farmers, and the extension service, which has been developed through the agricultural committee of the Nebraska Bankers' Association.

COUNTY AGENTS' SHORT COURSE

A summer course for county agents, a new venture offered by Ohio State University to give county agents an opportunity for advanced study in subjects which might be termed professional, ended July 31 with the assurance that it will be scheduled again next year.

Ten men took the course. Credit toward an advanced degree, allowing a total of eight hours, could be obtained in three subjects—modern tendencies in education, rural sociology, and rural economics. Other subjects offered were on extension methods, office management, and "humanizing knowledge," with an opportunity to attend one or two series of talks on other summer courses in session at the same time. The schedule covered about twenty hours of classroom work a week throughout the six weeks of the course.

To most of the classes the agents were able to bring problems which they had met in their work, and these served as a sort of laboratory material through which the fundamentals presented were studied.

The school was planned through the cooperation of the Ohio County Agents' Association, administrators of the Ohio Extension service, and the Ohio State University faculty. The course on extension methods was given by H. W. Hochbaum, Office of Cooperative Extension Work.

SPECIAL CREWS WILL FIGHT FIRES

Emergency forest-fire crews are a new feature of the Forest Service protective organization in the Pacific northwest this year, according to an announcement just made by the Forest Service.

Each crew or squadron consists of 1 forest-fire chief, 2 or 3 fire foremen, 1 camp superintendent, and 1 cook. They are located at strategic points in the forest-fire regions and will be used only to direct the work on large fires. Each squadron is supplied with motor transport for a quick get-away and is in telephone communication with the forest supervisor's headquarters. During the time they are not actually needed on forest fires they will work on road and bridge building and other forest improvements.

The fire chiefs are all regular forest rangers with many years' experience in handling large forest fires. The other members of the squadrons are local residents who have had extensive experience in forest-fire fighting.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

NEW NATIONAL FORESTS CREATED

Thirteen new national forests have been created during the past six months under the provisions of the Clarke-McNary Forestry Act, passed by Congress in June, 1924. In addition, the areas of five existing national forests have been extended. On July 1, 1925, the total number of national forests stood at 159.

These new national-forest areas have been formed out of military reservations through a joint agreement by the Secretaries of Agriculture and War. In placing the military reservations under the control of the Forest Service the right to use them for military purposes whenever necessary was, of course, expressly reserved.

The names of the military camps were used in naming the new forests. In the State of New York the Pine Plains and Upton Forests were created; in New Jersey the Dix; in Pennsylvania the Tobyhanna; in Kentucky the Knox; in Illinois the Savanna; in Alabama the McClellan; in Georgia the Benning; in Maryland the Meade; in South Carolina the Jackson; and in Virginia the Humphreys, the Lee, and the Eustis.

The additions to national forests already in existence occurred in New Mexico, South Dakota, Wyoming, Arizona, and Michigan.

In the States of New York, New Jersey, Illinois, and Kentucky the creation of these new national forests marks the first time that forest land in these States has been placed under forest management by the Federal Government.

Plans are already under way to bring these new areas under full management. As soon as sound forestry methods are put into effect it is believed they will serve as good demonstration areas and thus increase the interest in forestry, especially among farmers and small landowners.

The areas embraced within the boundaries of the new forests totals 354,509 acres. This brought the net area incorporated within the 159 national forests on July 1, 1925, up to 158,413,084 acres.

Mr. Hachiya Obama, secretary of the Department of Agriculture and Forestry of Japan, who was sent to this country by his Government for the purpose of study, was a visitor at the department last week.

BRIEF REVIEWS OF NEW BULLETINS

Abbreviations Employed in Experiment Station Record for Titles of Periodicals. Compiled by Frances A. Bartholow, Office of Experiment Stations. Pp. 160. July, 1925. (Department Bulletin 1330.) Price, 20 cents.

This compilation is a revision and enlargement of the list published in 1905 as Office of Experiment Station Circular 62, and covers the period 1915-1924. It includes abbreviations and full titles of about 3,600 periodicals, other than regular State agricultural experiment station publications, from which abstracts are made for *Experiment Station Record*. In the interest of consistency in making abbreviations for new periodicals, there is added a list of abbreviations of the principal words commonly used in the titles listed. Because of the small edition the free distribution of this bulletin will necessarily be confined largely to libraries.

Marketing Onions. By Alexander E. Cance, consulting specialist, and George B. Flske, investigator in marketing fruits and vegetables, Bureau of Agricultural Economics. Pp. 71, figs. 36. July, 1925. (Department Bulletin 1325.) Price, 15 cents.

With onions on sale in the city stores the year around and housewives buying regularly for flavoring, salads, and more or less frequent use as a cooked vegetable, one might think that the marketing of onions presented no very serious difficulty. However, about three-fourths of the commercial crop is produced in six States, supply varies greatly compared with demand, variety preferences are marked, distribution charges absorb a large proportion of the consumer's dollar, and prices often change greatly from month to month or may show prevailing high levels in some years and low levels in others according to conditions which to a certain extent may be described and foreseen. These and many other phases of the problems of marketing onions are discussed in this bulletin. Comprehensive tables summarize much of the information given in the text.

Extension Work in Agronomy, 1923. By O. S. Fisher, extension agronomist. Office of Cooperative Extension Work. Pp. 15, figs. 8. July, 1925. (Department Circular 343.) Price, 5 cents.

Extension work in agronomy relating to crops was conducted in 1923 along two important lines: (1) Economical production of feed for livestock, and (2) improvement of seed. The greater part of the work in soils was on problems relating to the use of lime or limestone, and on stimulating the use of high analysis fertilizers. Progress in extension work in agronomy is shown, it is felt, by the number of adult result or long-time demonstrations carried on by farmers, which increased from 108,955 in 1922 to 161,466 in 1923, or approximately 48.2 per cent.

Farm-Forestry Extension. Early Development, and Status in 1923. By G. H. Collingwood, extension forester, Office of Cooperative Extension Work and Forest Service Cooperation. Pp. 15, figs. 7. July, 1925. (Department Circular 345.) Price, 5 cents.

Forestry extension work had been carried on in about 32 States up to the beginning of 1924. Timber planting on waste farm land has been encouraged. Successful demonstrations have been given of thinning and improvement cutting in stands of timber. The teaching of methods of preserving fence posts and other timbers has met a real agricultural need. The control of white-pine blister rust has been part of the work. For-

estry club work with boys and girls has also been done to some extent, but there are even greater possibilities along that line.

ADDITIONAL PUBLICATIONS

Work of the Newlands Reclamation Project Experiment Farm in 1922 and 1923. By F. B. Hendley, agronomist and superintendent; E. W. Knight, junior agronomist, office of western irrigation agriculture; and L. E. Chine, associate agriculturist, office of demonstrations on reclamation projects, Bureau of Plant Industry. Pp. 27, figs. 3. July, 1925. (Department Circular 352.) Price, 5 cents.

An Appraisal of Power Used on Farms in the United States. By C. D. Kinsman, agricultural engineer, Bureau of Public Roads. Pp. 76, figs. 55. July, 1925. (Department Bulletin 1348.) Price, 15 cents.

Journal of Agricultural Research. Vol. 30, No. 9, May 1, 1925. Contents: The Influence of Temperature on the Infection and Decay of Sweet Potatoes by Different Species of Rhizopus. (G-464.) By J. L. Lauritzen and L. Harter.—Time of Year to Plant Mother Beets for Seed Production. (G-435.) By Deau A. Pack.—The Soil Mulch in the Absorption and Retention of Moisture. (Wash.-5.) By M. A. McCall.—Fundamentals for Toxicologic Studies of Fusarium. (G-469.) By H. W. Wulvenweber, C. D. Sherbakoff, O. A. Reinking, Helen Johann, and Alice A. Bailey.—The Ham Beetle, *Necrobia Rupeus* de Geer. (K-148.) By Perez Simmons and George W. Ellington.—Studies on Conformation in Relation to Milk Producing Capacity in Cattle. IV. The Size of the Cow in Relation to the Size of Her Milk Production. (Me-18.) By John W. Gowen.—Necrosis, Hyperplasia, and Adhesions in Mosaic Tomato Fruits. (Ind-16.) By Max W. Gardner.—Feeding Chlorinated Milk to the Albino Rat. (Ark-7.) By J. W. Read and Harrison Hale. Pp. 793-892. II. Price, 10 cents.

Note.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the *Journal* was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the *Journal* has since been published semi-monthly. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of July 27-August 1, 1925. Copies of these publications may be obtained from the stations issuing them:

Ground water fluctuations at Kearney Park, Calif. W. W. Weir. (Hilgardia [California Sta.], vol. 1, No. 7, pp. 133-144, figs. 5. June, 1925.)

The twenty-ninth report on food products and the seventeenth report on drug products for 1924. E. M. Bailey. (Connecticut State Sta. Bul. 267, pp. 421-491. March, 1925.)

Report on inspection of commercial feeding stuffs, 1924. E. M. Bailey. (Connecticut State Sta. Bul. 268, pp. 493-535. March, 1925.)

A description of Connecticut agriculture.—I, Historical statement. II, The nature of Connecticut's agriculture. III, The use of land. IV, Crops. V, Livestock. I. G.

Davis and C. I. Hendrickson. (Connecticut Storrs Sta. Bul. 127, pp. 43-207, figs. 58. March, 1925.)

Soybeans for Iowa. H. D. Hughes and F. S. Wilkins. (Iowa Sta. Bul. 228, pp. 345-405, figs. 18. May, 1925.)

Farm organization and management studies in Warren County, Iowa. C. W. Crickman. (Iowa Sta. Bul. 229, p. 56, figs. 9. June, 1925.)

The relation of soil moisture and nitrates to the effects of sod on plum and cherry trees. T. L. Lyon, A. J. Heinicke, and B. D. Wilson. (New York Cornell Sta. Mem. 91, pp. 21, figs. 3. May, 1925.)

The comparative value of peanut meal, cottonseed meal, and soybean meal as sources of protein for milk production. C. W. Holdaway, W. B. Ellett, and W. G. Harris. (Virginia Sta. Tech. Bul. 28, pp. 54, figs. 2. February, 1925.)

Articles By Department Workers in Current Publications

Browne, C. A. (Chemistry). Dr. Gullford L. Spencer and His Early Work as Sugar Technologist at the Bureau of Chemistry, 1882-1905. Reference Book of the Sugar Industry of the World. July, 1925.

Jamieson, G. S., and W. F. Baughman (Chemistry). Constituents of Crude Cottonseed Oil. J. Fat & Oil Industries, vol. 2, July, 1925.

Sarle, J. W. (Chemistry). Labeling of Flavoring Extracts. Am. Perfumer & Essential Oil Review, vol. 20, no. 5. July, 1925.

Sherman, Caroline B. (Agricultural Economics). Marketing a perishable food crop. The Forecast, July, 1925.

Slocum, R. R. (Agricultural Economics). National standardization of eggs continues to make progress. Poultry Farmer, August, 1925.

Tenny, Lloyd S. (Agricultural Economics). Universal cotton standards. American Review of Reviews, August, 1925.

Turrentine, J. W. (Soils). Sources of Potash and Ammonia. Chem. & Met. Eng., vol. 32, p. 284, No. 7. Feb. 16, 1925.

() Phosphoric Acid as an Industrial Chemical Reagent. Chem. & Met. Eng., vol. 32, p. 291, No. 7. Feb. 16, 1925.

Wherry, E. T. (Chemistry). The Appalachian Aspicums. Am. Fern J., vol. 15, no. 2, April-June, 1925.

NEARLY 16,000 FOR BETTER LIVESTOCK

A total of 15,818 livestock owners throughout the country are enrolled in the "Better sires—better stock" campaign for the improvement of domestic animals, according to a summary of progress just issued by the Bureau of Animal Industry of the department. The report, which is dated July 1, shows that 549,455 animals and 1,185,689 head of poultry are undergoing improvement by the systematic use of purebred sires.

During the period April 1 to June 30 outstanding progress in this work occurred in the following counties: Grayson, Va.; New Haven, Conn.; and Shelby and Union Counties, Ky. A total of 41 counties throughout the country have 100 or more livestock owners who are using purebred sires exclusively for all classes of livestock kept.

The campaign is progressing principally through the activity of county extension agents and progressive livestock owners.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE AND DOMESTIC ANIMALS

- Germain, Pierre. Une ferme dans la Brie. Beauvais, Prévot, 1924. Thèse agricole.
Maupas, Albert. La folle avoine (*Avena fatua*). Guinard par Sauveterre (B.-P.). Lauteur, 1925.
Remy, Bernard. La Société fermière de Cîteaux. Dijon, Bernigaud et Privat, 1924. Thèse agricole—Beauvais.
World's poultry congress. 1st, The Hague, 1921. Transactions. v. 2. Assen, Royal printing establishment: V. Ralla, 1921.

HORTICULTURE

- Dervaux, Germain. La culture des arbres fruitiers. Paris, Garnier, 1924.
Nassauische kartoffelkulturstation. Arbeiten. hft. 1. Glessen, 1918.
National Institute of agricultural botany. Potato synonym committee. Varieties of potatoes with their synonyms, immune from and susceptible to wart disease. Cambridge, Eng., 1925.

USEFUL PLANTS

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CUBAN SOILS AND SUGAR CANE STUDIED

Some unusual soil conditions have been encountered in Cuba through investigations carried on the past winter by the Bureau of Soils, cooperating with the Tropical Plant Research Foundation.

Most extensive and important of the sugar-cane soils is a deep-red clay which to depths often greater than 25 feet shows no change in its physical properties. In texture it is as fine grained as the heavier clays of North America, yet its porosity is such that practically all rain water is absorbed or passes downward. There are great flats of this red limestone soil through which not a stream nor the beginning of a stream passes. Plowing can be done in the afternoon following a heavy morning rain.

This is one of those strange severely weathered tropical soils whose particles of ultra-microscopic fineness (colloids) gather in clusters and resist detachment by or suspension in water. This gives an essentially granular character and strong resistance to erosion. The finer grains do not wash down to clog the pore space. The colloids do not swell and shrink with wetting and drying, and the type does not crack in the dry season to dissipate the scant moisture supply.

Similar soils have been found in the uplands of Costa Rica and other tropical countries. Their presence accounts for the negligible erosion of steep slopes in the humid-tropics, where many fields that

were in use probably before the coming of the conquistadores are still being cropped. These peculiar soil features, which give a heavy clay the property of a loam or sand, make possible the cultivation of very steep slopes. In the United States a clay soil on a surface so inclined would soon erode to bedrock.

There are also large areas of black and brown clays in Cuba, with properties opposite to those of the famous red land. The finer particles of these go into suspension readily, settling out slowly. They become sticky and plastic on wetting, crack on drying, and do not have the pore space for rapid drainage. Flat areas require ditching for relief from accumulating rain water, and the ordinary rules of waiting for the soil to dry must be observed in cultivating. One type is so extremely dense and inhibitive to moisture movement that harmful quantities of salt have accumulated in the subsoil, causing extreme suffering of sugar cane in very dry seasons.

Then there are the savanas, with their shallow serpentine rock soils and other peculiar types, all of which have generally been shunned by the farmer. It was learned, however, that with cultivation and fertilization certain areas of sandy savana produce good cane.

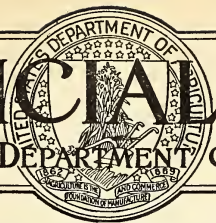
Sugar cane dominates Cuban agriculture even more than wheat dominates the heart of the wheat belt. The plantations are big enterprises, employing large forces of labor. In the manufacturing process high efficiency has been attained; but in the cane fields much remains to be done. Plant diseases and insect pests are widespread, fertilizer practice is in its infancy, and adjustment of methods and varieties to soil types is just beginning to receive the full attention of experts. Many centrals have made use of their land, with little or no cultivation, until yields have declined—when the practice has been to take in new land, turning out the old. With depletion of reserves of timbered areas on many plantations, the older lands, perforce, are coming again into use.

FABRIC SELECTION SLIDE SERIES

A series of 47 lantern slides illustrating points for consideration in selecting fabrics has been prepared by the Office of Cooperative Extension Work in cooperation with the Bureau of Home Economics and is now available for the use of extension workers and others interested. Supplementary notes which may be used in discussing the slides have been prepared by the Bureau of Home Economics.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., AUGUST 19, 1925

No. 33

PRICE AND AMBLER LEAVE CHEMISTRY

Heads of Two Divisions Go Into Commercial Field—Dr. Browne Praises Work

By the resignations of David J. Price and Dr. J. A. Ambler, both to be effective in September, the Bureau of Chemistry loses two valuable workers and the business world gains two. Mr. Price, engineer in charge of development work, and a national authority on dust explosions, goes to Pittsburgh, Pa., where he will be connected with the Mine Safety Appliance Co. Doctor Ambler, chemist in charge of the color investigation laboratory, will enter business in Florida.

Upon coming to the department in 1914, Mr. Price initiated and organized dust-explosion work in the Bureau of Chemistry. In connection with this work he has studied and investigated explosions in practically all types of plants in which dust is a direct or indirect product—grain elevators, sugar refineries, starch factories, and similar industries. He has designed and developed a number of effective control appliances. He has also developed a method for removal of static electricity from cotton gins, affording additional protection and reduction of insurance rates.

Work Benefited Many Industries

During last year Mr. Price was on leave of absence attending Pennsylvania State College. There he received a degree in mining engineering and also secured a number of scholastic honors.

Mr. Price is chairman of the Dust Explosion Hazards Committee of the National Fire Protection Association. He recently prepared regulations for the prevention of dust explosions in flour and feed mills, sugar refineries, pulverized-fuel plants, grain elevators, and starch factories which were adopted by the National Board of Fire Underwriters.

Mr. Price is one of the representatives of the department on the American Engineering Standards Committee. He also represents the department on the National Fire Waste Council, Chamber of Commerce of the United States. During the World War Mr. Price directed the grain-dust explosion prevention campaign for the department in cooperation with the United States Grain Corporation.

In accepting Mr. Price's resignation Dr. C. A. Browne, Chief of the Bureau of Chemistry, said:

"It is with the greatest regret that I accept this resignation, for in the short period of my connection with the bureau I have come to realize not only the importance of your work upon the prevention of dust explosions in the handling of grain, flour, starch, sugar, and other agricultural products, but also the great value of the services which you have rendered in other ways. The investigational work upon dust explosions which you have initiated and directed since becoming associated with the Bureau of Chemistry in 1914 has resulted in the prevention of enormous economic losses in various agricultural industries, and your publications upon this subject have attracted world-wide attention. The safeguards which you have devised have been very generally recommended by fire protective and other agencies, and their adoption has led to a great reduction not only in the losses from explosions but also in the rates of insurance. The practical results of your work in this field are accomplishments of which you may well be proud."

Doctor Ambler an Authority on Dyes

Doctor Ambler has been in the Bureau of Chemistry for eight and one-half years, and in charge of the color laboratory at Arlington farm since 1922. His work has included the investigation of dyes, dye intermediates, biological stains, and food colors. During the World War Doctor Ambler did some very important research work, as a re-

(Continued on page 4)

RECORD INCREASE IN CLUB WORK

Boys' and Girls' Clubs Enrolled 51,000 New Members Last Year and Grew Large Crops

Reports from State extension divisions and field agents received by the department show that boys' and girls' club work is continuing its previous steady, substantial growth in 1925. This is gratifying in view of the excellent record made last year, the enrollment for 1924 exceeding that of 1923 by more than 51,000 members. There were, likewise, 5,447 additional local clubs reported in 1924 and 60,000 more demonstrations completed by boys and girls in 1924 than in the previous year.

Among the more striking gains in club work noted was the increasing desire of farm men and women to have the boys and girls of their communities participate in the extension program, it now being the common practice for community programs to schedule demonstrations for both juniors and adults.

More Volunteers for Leadership

Another indication of progress is the volunteer leadership of busy men and women who take time from their own duties to help enroll the boys and girls of their communities in clubs. These men and women take training from specialists in club enterprises in order to be able to transmit it to their members. They meet with their clubs regularly, visit the members' demonstrations, encourage and help with the problems which arise, arrange for exhibits of the clubs' products, and help with reports of the results obtained in the demonstrations at the end of the year. The fact that the number of farmers, business men, and home makers sufficiently interested in boys' and girls' club work to assume and discharge these responsibilities last year exceeded 37,000 may be safely put down as an evidence of growth

in both quantity and quality of club work.

Some of the specific results which last year's club members obtained are found in the totals for various enterprises. Corn club boys and girls produced 812,000 bushels of corn, a large share of it improved varieties, and last year could hardly be classed as ideal for corn growing. The club cotton crop tipped the scales at 11,000,000 pounds of excellent quality seed cotton.

More than 372,000 bushels of potatoes were harvested by these young farmers, 248,000 pounds of tobacco, 43,000 bushels of peanuts, and large quantities of grains, legumes, and special crops.

Practice Latest and Best Methods

Young dairymen practiced the latest and best methods known in the feeding and management of 14,000 head of dairy cattle, including both calves and mature stock. Production records have been made by some of these club members of which experienced dairymen would be proud. Nearly 6,000 beef cattle, 60,000 hogs, 10,000 sheep, and 600,000 chickens or other poultry were included in the livestock holdings of club boys and girls in 1924.

In homemaking activities the figures show the same energetic attention and interest in the business undertaken. Over 300,000 articles of clothing were made by club members in their year's work. More than 256,000 quarts of fruits, vegetables, and meats were canned. In 1,454 clubs the members learned to make household budgets and keep accounts, the use of a systematized plan of household work, rearrangement of kitchens for greater convenience, improved laundry practices, and the use of labor-saving equipment in home-management enterprises.

Home furnishings were given attention by 1,082 clubs, and 2,077 clubs studied home health and sanitation measures. More than 12,000 boys and girls found time to clean the lawns, plant, and care for shrubs and flowers about their homes, demonstrating the things they were learning in their clubs about adding beauty to the home grounds.

Club Work Safeguards Rural-Life

"Boys' and girls' club work," comments C. B. Smith, chief of the Office of Cooperative Extension Work, in discussing the accomplishment of 1924, "is primarily an educational undertaking in which the principles and precepts are learned by practicing them. Through creative, constructive enterprises which quicken the initiative and imagination of these young people and stimulate them to an effort to make country life more prosperous and enjoyable, it makes them see a dignified and satisfying call-

ing in what before appeared only hard and uninteresting labor. Club work is recognized as a force for safeguarding the American ideals of rural life. There were more than 510,000 farm boys and girls reached by this influence last year, a most encouraging growth. But we must not forget that there are more than 10,000,000 boys and girls of club age on the farms of the United States, 26 per cent of them for one reason or another out of school and without its stimulation and encouragement at a time when life-long purposes and convictions are forming, affording an inspiring challenge to every extension worker."

The Mangosteen—A New Fruit for the Tropics

Fabulous stories have been told of the mangosteen, a fruit of the East Indies and Malayan Archipelago. It has been spoken of as the queen of fruits and as the ice cream fruit of the East. Visitors to Java about Christmas time find the mangosteen being served in many dainty ways and discover that it is unlike almost any other tropical fruit in sprightliness and refreshing, enticing flavor. The mangosteen is usually served for breakfast, coming to the table in big glass or silver bowls. It is served just as it is plucked from the tree with the hard, purplish skin or shell still on. To get at the pulp one makes a circular cut through the shell and then by giving a slight twist half of the shell lifts off, leaving the beautiful whitish segments of flesh in the remaining half. The segments may be eaten one by one, like a tangerine orange, and there are no fibers or "rag," nor are there any unpleasant after effects. The flesh fairly melts in one's mouth, leaving a taste not unlike lemon ice with a slight suggestion of vanilla ice cream.

In the hope of establishing the mangosteen tree on this continent the Bureau of Plant Industry, through the office of Foreign Seed and Plant Introduction, has been importing seed for a good many years. This seed is difficult to secure and more difficult to transport alive. From time to time during the past five years seed has been obtained and a considerable number of trees grown. These young trees have been sent to a number of near-by countries having tropical climates, where it is hoped they will eventually come into bearing. Trees have been sent to the Canal Zone, Costa Rica, Honduras, Cuba, and other countries to the south of us.

The mangosteen is a medium-size tree, rarely exceeding 25 or 30 feet in height. The leaves are a deep rich green and fairly glisten in the sunlight. The tree

is tender and consequently can not be grown successfully anywhere outside of the Tropics. The trees that are now going out, it is hoped, will provide a nucleus from which later may be developed plantations of sufficient size to supply our northern markets with commercial quantities of the fruit.

With the advent of refrigeration it has become possible to send such fruit north from the Tropics without great difficulty. It seems unlikely that American markets will be supplied from southern Asia, however. The development of commercial plantations in tropical America will be a slow process, but the project is being undertaken with energy, and it seems likely that another decade will see the first shipments of mangosteens reaching New York.

FOOT-AND-MOUTH DISEASE IN TEXAS

The second outbreak of foot-and-mouth disease in the State of Texas within 10 months was confirmed on July 29 on the same premises, 20 miles southeast of Houston, where the previous outbreak began. Immediate steps were taken by the Bureau of Animal Industry of the department and the State authorities to eradicate the infection, and up to August 13 no cases of infection have been found outside the originally quarantined area.

Even before a definite diagnosis had been made the Bureau of Animal Industry and the State Livestock Sanitary Board had a force of experienced men assembled so that there was no delay in handling the situation. The infected herd, consisting of 96 cattle, was slaughtered and burned on July 31, and on the same date a quarantine order was issued by the Secretary of Agriculture for the protection of livestock and other interests. This order placed under quarantine a large portion of Harris County. The second infected herd, discovered on August 5, was within this quarantined area and consisted of only 18 head of cattle. This herd was slaughtered and buried the following day. As these animals had been in contact with other animals prompt action is being taken to trace and slaughter all cattle in that locality which had been exposed.

An investigation is being conducted to ascertain if possible the source of the outbreak. Up to the present time the indications are that the present occurrence of the disease was due to infection harbored in some manner on the premises since the outbreak of last year. Regardless of the source of infection, it seems that the promptness with which the situation was handled prevented the disease from spreading over a large area.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

WORLD WHEAT ESTIMATES LARGER

Late estimates received by the department on world wheat production bring the total for 18 countries up to 2,148,000,000 bushels compared with 2,098,000,000 bushels for the same countries last year.

NUMBER OF FARMS DECREASES IN 1924

There were 30,000 fewer farms, or a decrease of one-half of 1 per cent, in the United States last year as compared with 1923, and a reduction of land in crops of 1,200,000 acres, or one-third of 1 per cent, the department has found in a survey of the situation. Of the decreased crop area, approximately 1,000,000 acres were used for additional pasture.

TO HOLD ROSIN STANDARDS HEARING

A public hearing will be held to discuss proposed standards for naval stores for which no standards are established by the naval stores act, at the Bureau of Chemistry, Washington, D. C., on November 16, 1925, at 10 a. m., according to a recent notice approved by Secretary Jardine.

PEPPERMINT CROP FORECAST

About 16,000 acres of peppermint will be harvested this year for the distilling of peppermint oil, the department has announced. Of this area, about 12,000 acres are in northern Indiana and 4,000 acres in Michigan. At the end of the planting season this year there were about 26,000 acres in peppermint in Indiana and somewhat more than 9,000 acres in Michigan, or about 35,000 acres in the two States. Less than one-half of this remains for harvest after the damage by frost and wind in the last week in May and the first week in June.

GEORGIA TOBACCO CROP INCREASING

Production of tobacco in Georgia is increasing rapidly and has already assumed an important place as a cash crop in the southern half of the State, according to the department, which bases its conclusions on recent investigations in that State and North Carolina. Georgia planted 9,000 acres of bright tobacco in 1922. This was increased to 15,200 acres in 1923, and under the stimulus of good prices the acreage was

increased to 39,300 in 1924. This year the acreage is estimated at 71,400 acres, and already there is talk of further heavy increases for 1926. In 1924 there were only 19 auction warehouses in the State for handling the crop, while this year there are 43 warehouses.

Utah Farmers' Encampment Attracts 5,000 Persons

A training camp and recreation center for agricultural advancement—this was the basic idea back of a highly successful farmers' encampment held at Logan, Utah, July 20 to 23. The event occurred on the grounds of the Agricultural College of Utah under the direction of the Extension Service. It was a true encampment, with approximately 2,500 persons living in tents on 7 acres of the campus set aside for camping purposes.

A delegation of field workers of the department representing various bureaus and offices was present to render assistance and to study the encampment method of agricultural education.

The event was the fifth of its kind held in Utah on as many consecutive years, and according to the plans of Prof. William Peterson, director of extension, it will be a permanent feature of the agricultural activities in the State. The success of the encampment idea appears to lie in the opportunities for wholesome recreation combined with the chance which everyone has to meet the college specialists informally and obtain information on current agricultural problems.

"I left 150 tons of hay in the field to attend this encampment," one farmer remarked to a department representative while on a tour of the experimental plats and barns for the study of methods used in plant and animal breeding, "and it is well worth the cost," he added. The encampment was made realistic by the use of khaki-colored trucks and ambulances—former Army equipment—but now used by the college for the transportation of visitors engaged in the practical and technical study of agriculture. Most of the tents also were originally used for military purposes, some having seen service abroad.

In addition to the excursions to the experiment farms, lectures and other meetings dealt with numerous agricultural and home-making problems. Among national leaders who appeared on the program were Dr. E. V. McCollum, of Johns Hopkins University; Thomas N. Carver, of Harvard University; Dr. M. J. Rosenau, of Harvard Medical School; Raymond Franzen, of the University of California; Henry C. Cowles, of the University of Chicago; and numerous

other authorities. Demonstrations, exhibits, and motion pictures contributed to the educational features of the encampment.

Forms of recreation ranging from a horseshoe-pitching contest to a Greek play followed by a dance provided diversion to suit all tastes. An evening play hour on a 3-acre lawn was an outstanding and picturesque event of each day's program. Band concerts, college chimes, and vocal music were other features.

For those campers who were disinclined to prepare their own meals the college cafeteria lunch stand and a milk bar provided food at nominal cost. Buttermilk was dispensed free of charge at the rate of about 300 gallons a day. A playground for children, a first-aid tent, and swimming pool contributed to the comfort of visitors. The children were in charge of an experienced educational director, while parents who "checked" them at the playground attended portions of the program of slight interest to the youngsters.

Registered attendance at the Utah farmers' encampments has increased from 945 for the year 1921 to well over 3,000 for the present year. In addition, an unregistered attendance of close to 2,000 persons was on the campus much of the time. These were chiefly persons within convenient driving distance, who did not camp.

BANKERS URGE TIMBER PROTECTION

Many Louisiana bankers are making fire protection and reforestation compulsory on mortgaged lands, announces the Forest Service. For the purpose of insuring the resale possibilities of such property they bind the mortgagor to make every effort to prevent forest fires on his land and to plant trees on waste and cut-over areas.

This practice is being energetically supported by the Louisiana Department of Conservation, and has been taken up by bankers in all parts of the State. It has spread all the more rapidly since the failure of efforts to boom certain cut-over lands for farming as opposed to timber-growing purposes.

The Louisiana Bankers' Association in April, 1925, adopted the following as the standard forestry clause for insertion in mortgages:

"The mortgagor does hereby further bind himself to put his waste or idle lands not suitable to agriculture to trees and to protect all forest trees and tree seedlings growing on any of the above-described lands, and he further pledges that fires or other destructive agencies will be prevented wherever possible."

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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THE OFFICIAL RECORD is published as a means of communicating to workers and cooperators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be returned in payment.

OFFICIAL ANNOUNCEMENTS

Memorandum of Office of Personnel and Business Administration

Field Purchases of Gasoline and Oil Through the Post Office Department

P. B. A. CIRCULAR No. 13—August 3, 1925.—At each of the cities named in the attached list (Inclosure 1) the Post Office Department has storage facilities for gasoline and motor oil purchased for local use, and offers to make its stocks available to the Department of Agriculture at cost plus 1 cent per gallon for handling charges and shrinkage (see Inclosure 2). As this will usually give the department the benefit of prices considerably lower than those it now pays, officials operating or supervising the operation of Government-owned motor vehicles at the points named should be instructed to confer with the local postmasters and arrange to take advantage of this service wherever a saving may be effected thereby.

The following procedure must be carefully observed in reimbursing the Post Office Department for the supplies furnished under this arrangement:

Gasoline or oil received will be receipted for in such manner as may be required by the local postmaster, who will, at the close of each month, invoice his deliveries during the month to our local official, these invoices to be in duplicate and to bear the local postmaster's certificate that they are correct and just and that payment has not been received. Our official will forward them through the usual channels to the bureau accounting office, accompanying them with Form 5 vouchers in duplicate drawn in favor of the First Assistant Postmaster General, Division of Motor Vehicle Service, Washington, D. C., with the receipt certificate duly executed. Upon their receipt in the disbursing office in Washington (or in a district fiscal agent's office of the Forest Service, as the case may be) payment will be promptly made.

Whenever arrangements for this service are made bureaus should report to the Division of Purchase, Sales, and Traffic the number of vehicles involved and their location. Bureaus should also maintain such records as will enable them to indicate their annual saving through this service.

W. W. STOCKBERGER,
Director.

Akron, Ohio.
Albany, N. Y.
Allentown, Pa.
Atlanta, Ga.

Atlantic City, N. J.
Augusta, Ga.
Baltimore, Md.
Berkeley, Calif.

Birmingham, Ala.
Boston, Mass.
Bridgeport, Conn.
Brockton, Mass.
Brooklyn, N. Y.
Buffalo, N. Y.
Camden, N. J.
Canton, Ohio.
Charleston, S. C.
Charlotte, N. C.
Chattanooga, Tenn.
Chicago, Ill.
Cincinnati, Ohio.
Cleveland, Ohio.
Columbia, S. C.
Columbus, Ohio.
Concord, N. H.
Dallas, Tex.
Davenport, Iowa.
Dayton, Ohio.
Denver, Colo.
Des Moines, Iowa.
Detroit, Mich.
Duluth, Minn.
East Orange, N. J.
East St. Louis, Ill.
Elizabeth, N. J.
Elmira, N. Y.
Erie, Pa.
Evansville, Ind.
Far Rockaway, N. Y.
Flushing, N. Y.
Fort Wayne, Ind.
Grand Rapids, Mich.
Harrisburg, Pa.
Huntington, W. Va.
Indianapolis, Ind.
Ithaca, N. Y.
Jacksonville, Fla.
Jersey City, N. J.
Kalamazoo, Mich.
Kansas City, Kans.
Kansas City, Mo.
Lancaster, Pa.
Lawrence, Mass.
Lexington, Ky.
Los Angeles, Calif.
Louisville, Ky.
Lowell, Mass.
Lynn, Mass.
Miami, Fla.
Manchester, N. H.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Nashville, Tenn.
Newark, N. J.
New Bedford, Mass.
New Haven, Conn.
New Orleans, La.
New York, N. Y.
Norfolk, Va.
Oakland, Calif.
Omaha, Nebr.
Paterson, N. J.
Peoria, Ill.
Petersburg, Va.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Me.
Portsmouth, Ohio.
Pueblo, Colo.
Providence, R. I.
Quincy, Ill.
Racine, Wis.
Raleigh, N. C.
Reading, Pa.
Richmond, Va.
Rochester, N. Y.
Rockford, Ill.
Sacramento, Calif.
St. Louis, Mo.
St. Paul, Minn.
San Antonio, Tex.
San Francisco, Calif.
Savannah, Ga.
Scranton, Pa.
Springfield, Ill.
Springfield, Mass.
Staten Island, N. Y.
San Diego, Calif.
Toledo, Ohio.
Topeka, Kans.
Trenton, N. J.
Utica, N. Y.
Warren, Ohio.
Waterbury, Conn.
Williamsport, Pa.
Wilmington, Del.
Wilmington, N. C.
Worcester, Mass.
Yonkers, N. Y.
York, Pa.
Youngstown, Ohio.
Zanesville, Ohio.

ANOTHER WAY TO SAVE

At the suggestion of the chairman of our committee on simplified business practice, the Division of Purchase, Sales, and Traffic recently negotiated with the Post Office Department an arrangement which opens the way for our field officers to make official purchases of gasoline and motor oils at substantially reduced prices in any of the more than 100 cities of the country where motor equipment

EARLY PUBLICATION OF RESULTS

The Official Record, through its recently added department, "New Ideas and Discoveries," offers an opportunity for scientific workers in all bureaus to present the results of important work without delay. These articles are to be written and signed by the persons responsible for the results. This issue contains the third article, "Unusual defoliation of peach trees due to active chlorine," by John W. Roberts, of the Bureau of Plant Industry. All bureaus are urged to contribute.

for the handling of mail is sufficiently extensive to warrant the maintenance by that department of repair shops and storage tanks, such storage facilities making possible larger individual procurements, and these in turn spelling lower unit prices. The terms under which the Department of Agriculture may benefit by the ability of the Post Office Department to command favorable prices in the local gasoline and oil markets will be found in Personnel and Business Administration Circular No. 13, the text of which appears elsewhere in this issue. It is believed that there should be the largest possible exercise of this privilege, and that an aggregate saving of thousands of dollars annually will result. This is one more instance of practical cooperation between departments specifically conserving Federal funds.

PRICE AND AMBLER LEAVE CHEMISTRY

(Continued from page 1)

sult of which the Bureau of Chemistry was able to supply the country with photosensitizing dyes until domestic manufacturers were prepared to supply them.

In accepting Doctor Ambler's resignation, Dr. C. A. Browne, Chief of the Bureau of Chemistry, said:

"It is with great sorrow that I learn of the circumstances which prompt you to sever your eight and one-half years' connection with the Bureau of Chemistry. During the past two years of my present office I have come to realize the great importance of the work which you have been directing upon the development of the American dyestuff industry, upon the improvement of biological stains, upon the certification of food colors, and upon the utilization of agricultural wastes for technical purposes. The practical results of your work along both research and regulatory lines have been far-reaching, and it was my hope that the work which you have initiated might be continued under your efficient direction for many years to come. It is therefore with the most genuine regret that I accept your resignation of the position which you have so acceptably filled since January, 1922, as chemist in charge of the bureau's color laboratory."

Assistant Secretary R. W. Dunlap was an attendant at the luncheon meeting of the Federal Business Association at Chicago on Wednesday, August 5, and visited a number of the department offices in Chicago on that day.

NEW IDEAS AND DISCOVERIES

UNUSUAL DEFOLIATION OF PEACH TREES DUE TO ACTIVE CHLORINE

Germicides are not usually promising as fungicides for fruit trees, but with the hope of results which might give a lead toward the development of a new fungicide for the peach a number of the more recently developed germicides commonly used in the sterilization of wounds, instruments, containers, etc., were tried out in a series of experiments for the control of peach bacterial spot caused by *Bacterium pruni*. One of these was a commercial preparation containing 94 per cent chloramines and 6 per cent sodium carbonate. It belongs to the strongly oxidizing "active chlorine" group of Dakin and Durham. The term "active chlorine" is used by them to denote chlorine as distinct from inert chlorine such as that in common salt. It does not necessarily mean that free chlorine is contained in the substance or liberated from it. Free chlorine has long been known to be toxic to plants.

Dissolved in water at the rate of 1 gram to 70 cubic centimeters of water the material was applied on June 19 to a peach tree as a spray by Leslie Pierce, of the Bureau of Plant Industry. Three days later many leaves had fallen and four days later more than 50 per cent of them were on the ground. At this time many of those remaining on the tree fell when touched. One week after the application was made 85 per cent of the leaves were on the ground. There were small red spots on the young twigs, but they were not seriously injured. There were no dead areas about the leaf scars and no consequent killing of buds, as sometimes occurs when peach twigs are injured by sprays, especially those containing arsenicals. The fallen leaves often were slightly burned at the margins and often showed numerous tiny red spots, but most of them showed little, if any, direct injury. They were in all cases green and turgid. A carpet of apparently healthy leaves, green and turgid, underneath a healthy peach tree was an unusual and very striking sight, for with the chemicals ordinarily used as fungicides, and with many others tried out experimentally, injury rarely appears in less than one week and defoliation takes place gradually over a period of many weeks, the injured leaves becoming yellow, or tending to become yellow, and flaccid before falling. It is evident that the alkaline chloramine spray is capable of causing rapid abscission, and its use may be of practical

value under conditions calling for the premature or simultaneous abscission of leaves and perhaps other parts.

JOHN W. ROBERTS.

BUREAU OF PLANT INDUSTRY,

Washington, D. C.

CANADA AND MEXICO AID DEPARTMENT

A very necessary feature of successful control work against insects is cooperation between entomologists of Canada and Mexico and those of the United States. During the crop-producing months it is particularly important to be able to forecast conditions, especially in those States bordering on the other two countries, and timely information as to outbreaks of troublesome pests elsewhere frequently enables American farmers to protect themselves, and vice versa.

The Canadian entomological department sends a regular monthly report to the Bureau of Entomology of the United States Department of Agriculture, and direct information whenever necessary. Bark beetles in British Columbia, grasshoppers in Manitoba, and the European corn borer in the Province of Ontario are some of the Canadian pests which we are guarding against along our northern boundary. The black army cutworm, which is giving trouble in many States here, was reported recently from a limited area near Ottawa, and a report of a heavy deposition of eggs of the pear psylla in Ontario corresponds to a similar report of the abundance of this pest in fruit orchards in New York.

In the Sinaloa region of Mexico the corn earworm or bollworm is reported as having destroyed a very appreciable number of cannerly peas, the first known record of this pest attacking peas. It has also attacked tomatoes very heavily in the Fuerte Valley district. These reports from Mexico furnish a basis for precautionary measures on the part of growers in this country.

NEW ALASKA GAME REGULATIONS

The regulations under the new Alaska game law, approved January 13, 1925, became effective August 10, and game wardens in Alaska have been transferred to the rolls of the Alaska Game Commission, created under the act. All new appointments will be made by the commission hereafter.

To assist the Alaska Game Commission in the inauguration of its work the Bureau of Biological Survey has supervised the printing of 26 application and license forms for use in Alaska under the new law.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Are timely reports on the honey market available?

Answer. Honey market reports are issued twice a month by the Bureau of Agricultural Economics to a mailing list of about 2,400 names. About 140 large beekeepers and honey shippers scattered throughout the country furnish reports of market prices, conditions of colonies and honey plants, etc., and bureau representatives in Boston, New York, Philadelphia, Chicago, Minneapolis, Kansas City, St. Louis, Denver, and San Francisco telegraph reports of the market conditions and prices of extracted and comb honey and beeswax. Four times a year reports from thousands of beekeepers, dealing with yield, condition of bees, etc., are tabulated and published.

Question. What surveying instrument does the Forest Service ordinarily use in running survey lines?

Answer. The Forest Service uses the solar compass, with which it is possible, by observation on the sun, to secure a north and south line much more accurately than that obtained by a magnetic compass. The work performed by the Forest Service is of such a standard that it is necessary to use an instrument better than the magnetic compass.

Question. Are extension agents granted compensation under the Federal compensation act for injury received in the performance of their work?

Answer. The United States Employees Compensation Commission has stated that cooperative extension employees who receive a salary from funds appropriated to the Department of Agriculture, or are appointed as collaborators of the department without compensation, are entitled to all necessary medical and hospital care for the results of injuries sustained while in the performance of duty, in accordance with the provisions of section 9 of the compensation law. Cooperative extension employees holding appointment as Federal agents, receiving a portion or all of their salary from Federal Smith-Lever funds and funds paid directly by the department, are also entitled to money compensation, based upon the rate of pay received from Federal funds at the time of the injury.

WITH EXTENSION FORCES

HOW OLD IS THE COUNTY AGENT?

Although agricultural extension work is generally considered a new thing, the idea of adult instruction in agriculture is at least 200 years old. C. R. Woodward, editor, New Jersey Extension Service, finds that a farm demonstrator was proposed for the colonial planters as early as 1723. This, with some interesting facts about the problems of farming in colonial days, is revealed by a study of the colonial documents in the New Jersey archives.

The proprietors and the British lords of trade were anxious to develop the culture of flax and hemp and the production of other naval stores. Ignorance of cultural methods on the part of the settlers, however, stood in the way. Demonstration farms, as they would be called now, to be operated by "community leaders" were proposed by Lewis Morris, president of the East Jersey Council, in a letter to the lords of trade written from Perth Amboy, N. J., November 21, 1719:

"Hemp may be easily raised in great quantities in this country; but we do not well understand the managery of it.

"I humbly submit it to your Lordship's consideration whether, if a few families, that understood it were plac'd by His Majestie, on some propper lands in the Province of New Yorke (of which there are great quantities), and oblig'd to attend solely the raising of hemp, it would not be the best direction; and of use."

Four years later a memorial was presented to the lords of trade by 20 "merchants and others trading to His Majesty's Plantations in America," reciting the ignorance of the planters and predicting a falling off of production unless some encouragement be given. It bears the date May 24, 1723.

"That the inhabitants of his Majesty's Plantations of New England, New York, the Jerseys, etc., are very little if at all acquainted with the proper methods of Sowing or Curing Hemp, or of preparing Trees for Making Tarr-Fitt for Cordage."

A special method for preparing tar apparently had been proposed, for the memorial continues: "For Making Tarr, none can be Expected From the Plantations if the Inhabitants be not Forthwith Instructed in this new method. Nor will any hemp be raised then, tho' the Duty upon it is now taken off and that there are many thousand Acres Pitt For the Produce of that Commodity

the Inhabitants being Ignorant of the Method of Sowing and Cuting it."

Finally a farm demonstrator is proposed as the best means of promoting this branch of agriculture: "That they . . . humbly propose some person well Skilled in Raising and Manufacturing the several Species of Naval Stores (flax, hemp, tar), . . . may be Forthwith appointed with sufficient power to instruct the Inhabitants and conduct this Affair, which is of the greatest consequence to his Maj'ts. Dominions both here and in the Plantations."

Unfortunately no record has been found as to whether or not this proposal was followed out.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

BREEDING PROJECTS AT BELTSVILLE, MD.

The Bureau of Dairying now has on its experimental farm at Beltsville, Md., 49 purebred Holstein-Friesian females, 106 purebred Jersey females, and 34 grade females that are used in its dairy-cattle breeding experiments. There are four projects in the breeding work, as follows:

(1) The continuous use for generation after generation of sires that have proved by the uniformly high-producing capacity of their daughters that they possess the inheritance that will determine high-producing capacity only.

(2) The comparison, generation by generation, of inbreeding and outbreeding, all animals coming from the same foundation animals.

(3) The comparison, generation by generation, of linebreeding and outbreeding, in which both the line-bred and the out-bred animals come from the same foundation animals.

(4) The combining of the blood lines of eight distinct Jersey families to test the effect of heterosis and also to throw some light on the breeders' conception of "nicking." In the herd at Ardmore, S. Dak., there are 28 Holstein-Friesian females; at the Huntley (Mont.) Field Station, 45 Holstein-Friesian females; at the Woodward (Okla.) Field Station, 21 Holstein-Friesian females; and at the Iberia Livestock Experiment Farm, Jeanerette, La., 39 Jersey females, and all of these animals are used in the first project of the breeding work.

In addition to the work in the herds of the bureau at Beltsville, the following institutions are cooperating in carrying out one or more of these projects:

New Jersey College of Agriculture; Clemson Agricultural College, S. C.; West Virginia University; University of California; State College of Washington; University of Idaho; Agricultural College of Utah; Reymann Memorial Farms, Wardsville, W. Va.; University of Maryland; University of Nebraska.

The producing capacity of all cows in the breeding project in the herds is determined by two official tests, one when the animal is a 2-year-old and one when it is mature, preferably a 5 or 6 year old. These tests are supervised by the State agricultural colleges in the respective States. When on official test the cows are kept in box stalls, are milked three times a day, are on dry feed throughout the year, and a careful record of feed consumption is maintained. The records made on these official tests are used as a basis for analyzing the results of the breeding projects.

"Poor Mrs. Jones" Finds She is Rich

The life of a farmer's wife, with its trials and tribulations, but also with its blessings and its luxuries, forms the plot for a new department educational motion picture, "Poor Mrs. Jones!"

Mrs. Jones, weary of the task of managing a farm home, keeping the farm account books, caring for the chickens, tending to the garden, and performing a hundred other household duties in addition to raising a family, gets "tired of it all" and demands that her husband sell out the farm and move to the city. Farmer Jones appears open to conviction, but first he decides that Jane has been working too hard and needs a rest. So he sends her off to the city to visit her married sister whose husband has a job with a salary that seems princely—from a distance.

Mrs. Jones goes. She gets a sample of life in a crowded city flat, learns of the taste of food not fresh from the farm, the hazards to children, of the traffic jams, the struggles at the bargain counter. After a week she is happy to cut her "vacation" short and return home—convinced that her lot is not so bad as it had seemed, that each dark cloud of farm life is lined with silver, and that in reality she is "rich" Mrs. Jones.

The picture is full of human interest. It is a contribution to the department's film library from the Office of Cooperative Extension Work. It is four reels in length and will be circulated through the educational film service of the Department of Agriculture and the cooperating State institutions.

BRIEF REVIEWS OF NEW BULLETINS

Effects of Continuous Selection for Ear Types in Corn. By H. S. Garrison, assistant agronomist, and Frederick D. Richey, agronomist in charge of corn investigations, office of cereal investigations, Bureau of Plant Industry. Pp. 11, pls. 2, figs. 2. August, 1925. (Department Bulletin 1341.) Price, 5 cents.

This is an account of an investigation to determine to what extent and in what length of time strains having distinct characteristics could be obtained by mass selection from a well-established variety of corn and also to determine the relative productiveness of the selected strains of the P_1 crosses between them, and of the original variety. It was concluded that close selection for a specific kind of ear would tend to bring about a homozygous condition of the factors necessary for that kind of ear, and decreased vigor and productiveness similar to that caused by inbreeding would follow. In view of the lack of evidence of marked superiority for any particular kind of ear, it is unfortunate, say the authors, to teach that uniformity among ears of a variety of corn is desirable by attaching importance to uniformity of sample, as is done in corn shows.

Report of the Hawaii Agricultural Experiment Station, 1924. Pp. 24, figs. 12. July, 1925. Price 5 cents.

This report briefly discusses the progress of activities at the station during the year and emphasizes the desirability of developing such new industries as would open a wide field of employment to the numerous nationalities making their home in the Territory. Among the important features of the work reported are the development of cultural practices in connection with the growing of certain tropical fruits which are commercially important or give promise of becoming so; improvement of plants through asexual and other methods of propagation; introduction of new varieties of fruits and nuts to test their adaptability to Hawaiian conditions; production of food crops for man, forage crops and grasses for animals, and green manuring crops for use in connection with the maintenance of soil fertility; growing of edible canna for starch manufacture; determination of fertilizer requirements for certain crops; testing of fruit juices for jelly making qualities and otherwise assisting manufacturers of fruit products; tests with locally grown vegetables to learn their nutritive and mineral constituents; and the extension of boys' and girls' club activities.

Work of the Huntley Reclamation Project Experiment Farm in 1922. By Dan Hansen, associate agronomist, office of western irrigation agriculture, Bureau of Plant Industry. Pp. 32, figs. 6. July, 1924, August, 1925. (Department Circular 330.) Price, 5 cents.

The work of the Huntley Experiment Farm, located in the Yellowstone Valley of Montana, includes experiments in the production of crops of local importance both on irrigated and dry lands and experiments in crop utilization through the use of livestock. The experiments with crops were continued as in previous years, with some slight modifications and additions. The investigational work included a rather extensive series of rotation and tillage experiments on both irrigated and dry land. The work with livestock consisted of experiments in feeding, management, and breeding dairy cattle and hogs. The experiments with dairy cattle included pasture carrying-capacity tests, meth-

ods of feeding, and the production of cows on advanced registry tests. The work with hogs included alfalfa-pasturing tests with various supplemental feeds, pasturing tests of dry-land crops, and dry-lot feeding.

Extension Work with Fruits, Vegetables, and Ornamentals, 1923. By C. P. Close, W. H. Bettie, and F. L. Mulford, extension horticulturists, Office of Cooperative Extension Work and Bureau of Plant Industry, cooperating. Pp. 16, figs. 6. July, 1925. (Department Circular 346.) Price, 5 cents.

This report directs attention to some of the outstanding things being done in extension work with fruits, vegetables, and ornamentals, and to other things which would be worth while doing. Major problems in fruit work have been those relating to pruning, spraying, fertilizing, and use of orchard cover crops. Those in vegetable gardening concerned dependable sources of seed, maintaining fertility with diminishing manure supply, controlling insects and diseases affecting vegetable crops, standardizing the grade and pack of vegetables, and encouraging home gardening. Beautifying the surroundings of homes, schools, and community buildings, and flower growing for pleasure and profit were the most important lines of work in ornamental horticulture. Club work with boys and girls is looked upon as one of the greatest opportunities for the development of extension teaching in horticulture.

Fire and the Forest. (California Pine Region.) By S. B. Shaw, silviculturist, and E. I. Kotok, national forest inspector, Forest Service. Pp. 20, figs. 10. August, 1925. (Department Circular 358.) Price, 5 cents.

This bulletin presents for popular reading the outstanding facts regarding the effects of fire in the California pine region. It tells a convincing story in picture and text of the cumulative nature of fire damage in that region, often scarcely perceptible in connection with any one fire, but in the aggregate wearing away virgin stands of timber, second growth stands, cut-over areas, and all potential forest land to an alarming degree. The practice of "light-burning" the forests with the intent to reduce fire hazard is discussed at some length, as is also the menace of the great brushfield areas of California, which, if they could be fully stocked with mature forests, would, it is stated, supply the timber needs of the whole country for a year and more.

ADDITIONAL PUBLICATIONS

Soil Survey of Delaware County, Iowa. By Clarence Lounsbury, of the U. S. Department of Agriculture, and Bryan Boatman, of the Iowa Agricultural Experiment Station. Pp. 32, fig. 1, map. (From F. O. Solis, 1922.) Price, 15 cents.

Experiment Station Record. Vol. 52, No. 8. June 1925. Pp. 701-800. Price, 10 cents.

Vol. 52, No. 9. Abstract number, July, 1925. Pp. 801-900. Price, 10 cents.

Note.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review. Vol. 53, No. 5. May, 1925. Pp. 187-242, figs. 16, charts

13. Special articles: Weather forecasting as an aid in preventing and controlling forest fires. By E. B. Calvert.—The Warm February of 1925 in the United States. By A. J. Henry.—Tornadoes of the United States, 1916-1923. By H. C. Hunter.—The 11-year period of temperature in the Northern Hemisphere in relation to the 11-year sunspot cycle. By Franz Baur.—Radiation and polarization measurements during the solar eclipse of April 9, 1921, at Davos, Switzerland. By C. Dorno.—Seasonal precipitation in California and its variability. Part II. By B. M. Varney.

Note.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of August 3-8, 1925. Copies of these publications may be obtained from the stations issuing them.

Harvesting and packing grapes in California. H. E. Jacob, and J. B. Herman. (California Sta. Bul. 390, pp. 44, figs. 24. June, 1925.)

Blackhead and other causes of loss of turkeys in California. H. W. Graybill. (California Sta. Circ. 291, pp. 14, figs. 4. June, 1925.)

The basis of classification of insects. P. T. Bioletti. (California Sta. Circ. 293, pp. 15, figs. 3. June, 1925.)

List of available publications, July 1, 1925. (Nebraska Sta. Circ. 27, pp. 7.)

Adjusting farm production in Cheshire County, N. H., to market demands. H. I. Richards and H. A. Rollins. (New Hampshire Sta. Bul. 217, pp. 55, figs. 18. May, 1925.)

Rearing calves by the use of calf-meat meal. L. A. Maynard, L. C. Norris, and W. E. Krauss. (New York Cornell Sta. Bul. 439, pp. 23, pls. 2, figs. 6. June, 1925.)

Insects affecting stems of wheat and other small grains in North Dakota. R. L. Webster. (North Dakota Sta. Circ. 25, pp. 20, figs. 22. Mar., 1925.)

The tractor on Ohio farms. F. L. Morison. (Ohio Sta. Bul. 383, pp. 30, fig. 1. May, 1925.)

The inheritance of body-weight in poultry.—I. In the Cornish-Hamburg cross. H. G. May. (Rhode Island Sta. Bul. 200, pp. 34, figs. 18. May, 1925.)

Annual report of the director South Dakota Agricultural Experiment Station for the fiscal year ending June 30, 1924. J. W. Wilson et al. pp. 31.

The work of the agricultural experiment station of the University of Tennessee—Thirty-seventh annual report, 1924. C. A. Moore et al. pp. 44, figs. 51.

Commercial feeding stuffs, September 1, 1923, to August 31, 1924. B. Youngblood, F. D. Fuller, and S. D. Pearce. (Texas Sta. Bul. 324, pp. 157. Oct., 1924.)

Breeding experiments with blackberries and raspberries. H. Ness. (Texas Sta. Bul. 326, pp. 28, figs. 12. Apr., 1925.)

Commercial feeding stuffs. J. L. Hills, C. H. Jones, and G. F. Anderson. Brief of new agricultural seed law. (Vermont Sta. Bul. 244, pp. 32. Apr., 1925.)

"Giant hill" potatoes a dangerous source of seed.—A new phase of spindle-tuber. A. H. Gilbert. (Vermont Sta. Bul. 245, pp. 16, figs. 6. May, 1925.)

Approximately 44,000 eight-gallon cans of milk were delivered daily to the city of Chicago during 1924 by 26 railroads, which carried 68 per cent of the supply, and 141 motor trucks, which transported 32 per cent, according to studies recently made by the Bureau of Public Roads. If any milk consumed in the city was delivered in any other way, the amount was negligible.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Brazil. Ministério da agricultura, industria e commercio. Serviço de inspecção e fomento agricolas. Geographia agricola, Brasil. S. Paulo, 1921.

Hansen, Kristian. Det Danske landbrugs historie. pt. 1-4. København, G. E. C. Gads forlag, 1924.

International institute of agriculture. Bureau of the secretary general. Réponses de quelques gouvernements aux enquêtes sur a) L'organisation administrative et libre de l'agriculture; b) Les dépenses en faveur de l'agriculture; dans les différents pays. Rome, 1924.

Mattel, R. L. Apuntes sobre la enseñanza de la agricultura en las escuelas rurales de Puerto Rico. San Juan, 1916. (Porto Rico. Dept. of education. Bulletin, 1916, no. 4, whole no. 4.)

DOMESTIC ANIMALS

Glättli, Hans. Anatomie des venensystems des kuhenters. Richterswil. Buch- und kunstdruckerei, 1924. Inaug.-diss.—Zürich.

Pucci, Carlo. Atlante monografico delle principali razze bovine italiane. fasc. 1-7. Firenze, Instituto micrografico italiano, 1912-16.

HORTICULTURE

Commercial cucumber culture, by the Lea Valley correspondent of "The Fruit grower." London, E. Benn, 1924.

Lorette, Louis. The Lorette system of pruning. Tr. by W. R. Dykes. London, M. Hopkinson, 1925.

Masclaf, A. Gladioli. London, T. Butterworth, 1925.

Wilson, E. H. America's greatest garden. The Arnold arboretum. Boston, Stratford company, 1925.

ROADS

Kühnel, Artur. Drogi projektowanie, budowa i utrzymanie. Lwów, Poznań, Nakladem wydawnictwa polskiego, 1922.

Kühnel, Artur. Ulice projektowanie, budowa i utrzymanie. Lwów, Poznań, Nakladem wydawnictwa polskiego, 1925.

Victoria, Australia. Country roads board. Titles office. Report, by W. Calder, on his investigation of road problems in Europe and America during 1924. Melbourne, 1925.

HOME ECONOMICS

Cleveland, Elizabeth. Training the toddler. Philadelphia, Lippincott, 1925.

Collins, Harry. The A B C of dress. New York. Modern modes corporation, 1923.

Crand, Mrs. C. B. Everyman's house. Garden City, N. Y., Doubleday, Page, 1925.

Wadhams, Mrs. C. R. Simple directions for the laundress. New York, Longmans, Green, 1917.

CHEMISTRY AND CHEMICAL TECHNOLOGY

Arrhenius, S. A. Chemistry in modern life. New York, Van Nostrand, 1925.

Coffignier, Charles. Colours and varnishes. London, Scott, Greenwood & son, 1925.

Enich, Friedrich. Mikrochemisches praktikum. München, J. F. Bergmann, 1924.

Hamilton, Alice. Industrial poisons in the United States. New York, Macmillan, 1925.

Parry, E. J. Cyclopaedia of perfumery. London, J. & A. Churchill, 1925.

ENTOMOLOGY

Stettin. Entomologischer verein. Catalogus coleopterorum Europae. 5. ann. Stettin, F. Hesselberg, 1855.

Whiting, P. W. A study of hereditary and environmental factors determining a variable character; defective and freak venation in the parasitic wasp *Habrobracon Juzlandis* (Ashm.) Iowa City, 1924. (University of Iowa studies in child welfare, vol. III, no. 1.)

BOTANY

Florin, Rudolf. Die bestäubung der kirschblüte. Frankfurt (Oder), Trowitzsch, 1924.

Gerke, Otto. Botanisches wörterbuch. Leipzig, B. G. Teubner, 1919.

Konrad, F., and Maublanc, A. Icones selectae fungorum. fasc. 1. Paris, P. Lechevalier, 1924-25.

Panama Canal. A handbook of the principal trees and shrubs of the Ancon and Balboa districts, Panama Canal zone. Washington, 1925.

Shimek, Bohumil. Keys to the woody plants of Iowa. Iowa City, The author, 1925.

Zahlbruckner, Alexander. Catalogus lichenum universalis. bd. 1-3, bogen 20. Leipzig, Borntraeger, 1922-25.

ECONOMICS AND STATISTICS

Balmaceda, J. C. Agricultural credit cooperative associations in the Philippines. Manila, 1924. (Philippine Islands, Bureau of agriculture. Bulletin no. 40)

Pruette, Lornie. Women and leisure; a study of social waste. New York, Dutton, 1924.

Young, B. F. Statistics as applied in business. New York, Roland press, 1925.

REFERENCE BOOKS

Bartholomew, J. G. The Oxford economic atlas. 6th ed. London, Oxford university press, 1925.

Heilbusch, Erwin. Deutsch-englisch-französisch-spanisches fachwörterbuch für den chemikalienhandel. Berlin, R. Bredow, 1921.

PERIODICALS CURRENTLY RECEIVED

Caminos y turismo: revista bimestral. año I, v. 1, no. 1—Oct. 1922—Valparaiso, Chile. City planning [quarterly], v. 1, no. 1—Apr. 1925—Augusta, Me.

Irish breeder (The Ark) [monthly], v. 13, no. 11—Feb. 1925—Belfast.

Spain. Consejo economía nacional. Resumen mensual de las principales mercancías importadas y exportadas por las aduanas de la provincia. Jan. 1922/25—Madrid.

Articles in Current Publications by Department Workers

Ashbrook, Frank G. (Biological Survey). Introducing Mr. Fiber Zibethicus. Fur Dye-Gest, vol. 4, no. 7, pp. 3-5, 21, 22, July, 1925.

MacDonald, Thomas H. (Public Roads). Building a system of national roads through Federal aid. Georgia Highway. Vol. 3, pp. 8-10, 15, June, 1925.

McAtee, W. L. (Biological Survey). Notes on drift, vegetable balls, and a food product of inland waters. Ecology, vol. 6, no. 3, pp. 288-302, July, 1925.

Oberholser, Harry C. (Biological Survey). April and May birds of Washington. D. C. Bird-Lore, vol. 27, no. 4, pp. 259-260, July-August, 1925.

Sherman, Caroline B. (Agricultural Economics). Rural Improvement through encouragement. South Atlantic Quarterly, July, 1925.

Taylor, Henry C. (Agricultural Economics). Farmers quitting farms give those who stay a chance. New York World, Sunday August 9, 1925.

Club Work Stimulates Desire For College Education

That participation in agricultural club work by farm boys and girls is an incentive to reach out for a higher education is shown in reports recently gathered by the department. According to these reports more than 8,600 former members of 4-H clubs, as these agricultural clubs are known, enrolled in colleges last year.

Some of these young people would have entered college in any event, but a large number had found from their experiences in trying to perform some farm or homemaking enterprise in a better way than was usually done in their communities, that knowledge and training are to be highly prized. A larger

number have gone to college as a result of the stimulation derived from club work.

A survey of the new students in the University of Tennessee College of Agriculture at the 1924-25 session showed that 51 per cent had been club members. In the freshman class of Pennsylvania State College, 73 club members were enrolled, more than half of them taking agricultural subjects. Michigan State College registered 133 club members. Nearly 100 Vermont club members entered the State university or other schools of college rank last year.

Cooperation in work and play, practiced in the boys' and girls' clubs, has continued in college life, many institutions having organizations of former club members. The 75 former club members now attending Louisiana State University meet regularly to help those who are newcomers to get acquainted, and for business and social programs for the benefit of all members. Washington State Agricultural College has an honorary fraternity for former club members with a membership of more than 170. Colorado's club members at the State agricultural college have a social organization with 70 members.

Meeting the desire for more education often has required some years of hard work and planning. Frequently the enterprise which was started during club-work days has paid all or a good share of the college expenses as well as furnishing the incentive to obtain more education.

SLIDE SERIES ON FARM ANALYSIS

A series of lantern slides showing why a farmer should analyze his business has been prepared by the Office of Cooperative Extension Work in cooperation with the Bureau of Agricultural Economics. Supplementary notes which may be used in discussing the slides have been prepared by the Bureau of Agricultural Economics and accompany the series.

By closely watching forecasts and weather conditions a firm of architects succeeded in constructing a large public building during last winter at Green Bay, Wis., where the performance is considered unusual for that climate. The official in charge at that station says that the men were set to work or laid off according to official thermometer records, no masonry work being done at less than 10° above zero. Work was stopped for extended periods when the forecasts issued by the Weather Bureau were adverse.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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DUVEL CHIEF OF GRAIN FUTURES

**Comes to Washington September 1—
Formerly Here Many Years—
L. A. Fitz Succeeds Him**

Dr. J. W. T. Duvel, who has been grain exchange supervisor at Chicago for the past three years, and acting in charge of the administration of the grain futures act since March 13, 1925, has been promoted to chief of the Grain Futures Administration. He will make his headquarters in Washington, D. C., after September 1.

Early Interested in Grain Problems

Doctor Duvel first came to the department in 1902 as an assistant in the seed laboratory of the Bureau of Plant Industry, and while there wrote several bulletins on seeds. He soon became interested in grain problems, and with Edgar Brown, also of the seed laboratory, invented the Brown-Duvel moisture tester which gives a quick method of determining the moisture content of grain. This tester has come into a very wide use, not only in testing grain but in connection with other commodities such as cottonseed, rice, beans, and many others. This method has been adopted as the official method for determining moisture content in the administration of the Federal grain standards act.

In 1908 Doctor Duvel was made assistant in charge of laboratory methods in grain standardization and two years later became a crop technologist in charge of grain standardization investigations. When Congress passed the grain standards act in 1916, the grades established by Doctor Duvel were made the official standards under the provisions of that act and are now in effect throughout the United States. Transferring to the Bureau of Markets in 1917, he continued his work on grain problems and since that time has pub-

lished several bulletins on grain handling and grain grading.

Served With U. S. Grain Corporation

During the war Doctor Duvel was on furlough from the department in order to be placed in charge of the technical branch of the United States Food Administration Grain Corporation. After the war, in 1919, he resigned as crop technologist from the department and was in charge of the grain office of Hellet & Carey Co., Ltd., Winnipeg. There he gained considerable experience not only in future trading in grain but also in the buying and selling of grain.

When the Grain Futures Administration was organized in 1922 Doctor Duvel returned to the department as grain exchange supervisor, which position he has held up to the present time.

L. A. Fitz, of Manhattan, Kans., will succeed Doctor Duvel at Chicago. Mr. Fitz has had considerable experience with the grain, milling, and feed industries. He was connected with the Kansas State Agricultural College and had charge of the enforcement of the feed laws of that State. Mr. Fitz will take up his new duties immediately, Doctor Duvel remaining a short time to assist him.

RECORD PEACH CROP IN GEORGIA

The best peach crop that has ever been grown in Georgia has just been harvested, according to a report just received from the Fruit Insect Investigation Laboratory of the Bureau of Entomology, at Fort Valley, Ga. Over 11,000 carloads were shipped without a single complaint of curculio damage. The curculio is under complete control. Five years ago the Georgia peach crop was ruined by it. Results from peach orchards dusted from airplanes show that the new method was as effective against the curculio this year as the ground machine method. The report further states that four generations of the oriental peach moth have already been reared this season.

POPENOE TO JOIN FRUIT COMPANY

**Plant Explorer Leaving Department
October 1—Will Take Up
Work at Tela, Honduras**

Dr. Wilson Popenoe, agricultural explorer acting in charge of the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, has signified his intention of leaving the department October 1, 1925. After October 1 Doctor Popenoe will be associated with the United Fruit Co., with headquarters at Tela, Honduras.

Exploration Work on Date and Navel Orange

Doctor Popenoe came to the Bureau of Plant Industry in May, 1913, when only 21 years of age. Before entering the department he was engaged in important private agricultural explorations in India, Mesopotamia, Algeria, Japan, Philippine Islands, Malay Peninsula, and the Persian Gulf countries. This exploration work centered around the date and resulted in securing much valuable information regarding this crop. In October, 1913, Doctor Popenoe was made an agricultural explorer for the Bureau of Plant Industry, and in company with A. D. Shamel and P. H. Dorsett, of the same bureau, went to Brazil. The Brazilian trip had for its primary object a visit to the home of the navel orange in the hope that new facts and possibly new types of this very valuable fruit might be secured for the United States. The studies made by Doctor Popenoe and his colleagues and the plant material collected by them brought out much information of value. The results of this exploration work were published in a department bulletin.

After returning from Brazil in 1914 Doctor Popenoe continued his exploration work, confining his activities mainly to the West Indies. He also spent considerable time in studies of tropical and

subtropical fruits in southern Florida. In August, 1916, Doctor Popenoe embarked upon one of the most extensive and extended series of agricultural explorations ever undertaken by the department. For five years he traveled on foot and on mule back through nearly all the Central American and many of the South American countries. For 16 months he explored the hills, mountains, and valleys of Guatemala in search of avocados suitable for introduction here. He was successful in introducing about 30 new varieties, and a considerable number of these have been established in California and Florida. A list of Doctor Popenoe's discoveries in the way of new crops would be a lengthy one, including such things as the Guatemalan avocados already mentioned; a new race of avocados from Ecuador; a new fruit from Ecuador known as the Capulin cherry; new Chilean strawberries, and giant blackberries from the Andes. Many cereals, beans, potatoes, and other crops new to this country were discovered and introduced. In addition to food crops Doctor Popenoe discovered and introduced numerous ornamentals, including a number of interesting palms.

Late Work on Cherry and Avocado

Since 1921 Doctor Popenoe has been acting in charge of the Office of Foreign Seed and Plant Introduction, with headquarters in Washington. In November, 1924, he was appointed by the President as a delegate to the Pan American Scientific Congress held at Lima, Peru. At the time of this meeting the University of San Marcos, in Lima, the oldest university in the New World, conferred upon him the honorary degree of doctor of science. On his return from this mission Doctor Popenoe continued his field explorations, revisiting the Capulin cherry district in Ecuador, and succeeding for the first time in bringing live budwood of this fruit home. He also secured new propagating material of the Ecuadorian avocados.

Doctor Popenoe is the author of a long list of publications bearing on agricultural exploration work and tropical and subtropical fruits. Some of these publications have been issued as bulletins of the department and others under private auspices. Doctor Popenoe's new work will keep him actively in the field of agricultural exploration. He will also be given opportunities for experimental work having for its object the development of new crop industries under tropical conditions, backed by everything that ample funds, science, and practice can supply. Doctor Popenoe's long experience as an agricultural explorer, his familiarity with the Tropics, his mastery of foreign languages, and

his intimate knowledge of the Central and South American peoples eminently qualify him for his new field of labor.

The Governments of Ecuador and Chile have advised Doctor Popenoe that decrees have been signed by the Presidents of the respective countries conferring upon him the Order of Merit in recognition of his work in those countries studying their agricultural possibilities. The Order of Merit was originally intended as a recognition of military service performed by foreigners but later was granted to civilians. Of course, it has been impossible for him to accept these decorations while in the Government service, but upon his resignation it will be proper for him to formally accept the medals.

Dan D. Casement Will Review Forest Service Grazing Report

Dan D. Casement, of Manhattan, Kans., has been appointed the special representative of the Secretary of Agriculture to make a review of the national forest range appraisal report completed by the Forest Service in 1924.

Commenting upon this appointment, Secretary Jardine said:

"For some time I have been endeavoring to secure the services of a competent, experienced man for reviewing the work done by the Forest Service of the Department of Agriculture in arriving at a grazing fee to be charged on the national forests for all classes of livestock.

"It will be remembered that the Department of Agriculture, under certain commitments to the Agricultural Appropriations Committee in 1919 and 1920, agreed to make a careful survey of the whole question of grazing fees on the national forests and be prepared to recommend a fee at the expiration of the term permits which were issued in 1919 and terminated in 1923.

"Due to the depression in the livestock industry the date when the new fees were to become effective was postponed to 1924 and for the same reason was again postponed to become effective at the beginning of 1927.

"After the appraisal of national forest ranges was completed and submitted to the Secretary of Agriculture by the Forest Service, considerable opposition developed among stockmen to the fees arrived at. As a means of reconciling the differences of opinion the Chief Forester of the United States Forest Service recommended to me the appointment of a special representative to review the work of the Forest Service and advise me accordingly."

Officials of the department believe that Mr. Casement, who has had long experience in the production of livestock on the feed lot and ranges, is admirably qualified to review and analyze the data submitted by the Forest Service.

Mr. Casement was reared on an Ohio farm and was graduated from a western college. He has developed a large stock farm near Manhattan, Kans., and is engaged in the range cattle business at White River, Colo. He is a permittee on the Uncompahgre National Forest and understands thoroughly the regulations and rules governing the grazing of livestock on the national forests. He is staff correspondent of an important livestock journal, served in the Army during the World War, and has been in intimate touch with the range livestock business for a number of years.

Mr. Casement will begin this work on or about January 1, 1926, and after a review of the Forest Service records will spend some time in the Western States interviewing the stockmen and examining certain typical national forest and private-land ranges.

SURVEY NEARING COMPLETION

The agricultural survey of the New Orleans trade area, which is being conducted by the Bureau of Agricultural Economics, is nearing completion. Field work in the rice area of southwest Louisiana was completed August 4.

One hundred thirty-two farms were visited and records secured of their business operations for the last cropping season. This included "out of pocket" expenses, cash income, and the labor demands for each farm. The field study of the Brookhaven, Miss., dairy, trucking, and general farming section has also been completed.

Field work in progress includes a survey of the cotton and truck areas in Mississippi. The highly specialized trucking areas of both Louisiana and Mississippi will also be surveyed, according to present plans, but not until the work in the staple-crop sections is completed. The consumption and distribution survey in New Orleans is progressing slowly, according to reports. Much detailed record taking is involved, but this is being completed even more rapidly than anticipated.

E. B. Smith, engineer of tests of the division of tests of the Bureau of Public Roads, has resigned in order to accept the position of research professor in the engineering department of Iowa State College, Ames, Iowa. Mr. Smith has been connected with the department since 1914, and with the Bureau of Public Roads with the exception of two years in the employ of the Bureau of Soils. He has been in immediate charge of research work at the Arlington Experimental Station relating to engineering investigations on pavements and bridges.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

LAMB AND WOOL PRODUCTION INCREASE

Fairly sustained prices for lambs for the remainder of the year and possibly lower prices for spring lambs in 1926 are to be expected, according to an outlook report on lambs and wool issued by the department August 20. The outlook for wool is uncertain, and lower prices for wool are probable next year unless there should be an increase in demand.

FEWER CATTLE FOR FALL MARKETING

There will probably be about 250,000 fewer cattle marketed from the range country this fall than last fall, with the principal reduction in the Southwest, according to estimates of the department. The estimated number to be marketed this fall is 4,077,000 head, compared with 4,322,000 last fall and 4,208,000 in the fall of 1923.

PULASKI HOLDS COUNTY RECORD

With 592 livestock owners officially enrolled with the department as purebred-sire users, Pulaski County, Va., remains the premier county of the United States in the extensive use of purebred males in livestock breeding operations, so far as the department's records show.

POLISH BARLEY AND OATS INCREASE

The Polish barley crop is now estimated at 63,244,000 bushels, compared with 55,489,000 bushels last year, according to a cablegram received by the department from the International Institute of Agriculture at Rome. The Polish oats crop is placed at 197,656,000 bushels, against 166,171,000 bushels, the final estimate for last year.

WORLD FLAXSEED CROP SMALLER

World production of flaxseed will probably be smaller this year than last, reports the department. Acreage estimates for 14 countries which had been 95 per cent of the estimated total world flax area last year total 16,841,000 acres, compared with 17,530,000 acres in 1924. Production estimates or forecasts for the United States, India, Canada, Morocco, Tunis, and Bulgaria total 54,353,000 bushels, compared with 58,852,000 bushels last year. These countries pro-

duced more than 45 per cent of the 1924 crop.

ENGLISH AND WELSH CROPS DECREASE

Production of cereal crops in England and Wales is slightly below that of last year, according to a cablegram received by the department from its agricultural commissioner at London. This is the first European country to report decreased wheat production this season as compared with last year.

ARGENTINE CROPS GOOD

Argentine crop conditions are above normal, except flax, which is slightly below normal, according to a cablegram received by the department from the International Institute of Agriculture at Rome. Crop conditions in percentage of normal are reported as follows: Wheat, 103; flax, 99; oats, 102; barley, 101; winter rye, 104.

INDIAN WHEAT ESTIMATE HIGHER

The final estimate of the Indian wheat crop for this year is 324,651,000 bushels, compared with a previous estimate of 323,415,000 bushels, according to a cablegram received by the department from the Indian Department of Statistics at Calcutta. The final estimate of the harvest last year was 363,888,000 bushels.

NEW IDEAS AND DISCOVERIES

SPRING INFECTION OF SUGAR-BEET LEAFHOPPERS WITH CURLY TOP VIRUS

The curly top disease of sugar beets was first confused with direct insect injury. In 1915 Bonquet and Hartung announced that sugar-beet leafhoppers did not necessarily cause curly top on the beets on which they fed, but that curly top always resulted if the leafhoppers had first fed on diseased beets and were then transferred to healthy beets. Later observations have not only confirmed these conclusions but have shown that the virus of the disease is not carried in the egg of the leafhopper so that each new generation at the time of emerging from the egg is incapable of causing curly top. Furthermore it has been determined that while many native plants of the desert may become affected with curly top and may be as effective carriers of the curly top virus as the diseased beet itself, different plants vary widely in their susceptibility and some plants actually cause an attenuation or reduction in virulence of the curly top virus.

The extent to which the sugar-beet leafhopper may occur free of the curly

top virus under natural conditions has remained a controversial subject; accordingly the following summary of recent field records is especially significant.

In the Yakima Valley of the State of Washington approximately 25 per cent of the normal crop of beets was harvested from a large acreage during the season of 1924. The losses from curly top in this valley have been so serious and frequent that this year beet growing has been practically abandoned. In the entire valley this season (1925) three fields, comprising in all approximately 20 acres, were planted. In field No. 1 there were several rows of mother beets at one side of the field. These mother beets had been selected last year in the course of breeding experiments for resistance to curly top and were all affected with the disease. In this year's crop the number of diseased beets in comparison with the healthy ones varied inversely with the distance of the young beets from the row of diseased mother beets. In field No. 2, which was across the highway and about 75 yards from No. 1, less disease could be found than in the least affected part of No. 1. In field No. 3, which was about a quarter of a mile from No. 1 and separated by a barrier of trees and a stream, no curly top disease could be found. There were only a relatively small number of leafhoppers present, but they were apparently equally distributed in all three fields. These observations were made on June 29. The probable explanation of the situation is that many, if not all, of the leafhoppers in the field were those which had developed on near-by weeds which happen to be not susceptible to curly top and that the insects were accordingly nonviruliferous when they moved on to the beets. Those leafhoppers which fed on the diseased mother beets of course acquired the virus and could then transmit it to the younger beets.

EUBANKS CARNSER.

BUREAU OF PLANT INDUSTRY,
Riverside, Calif.

C. J. West, of the Bureau of Agricultural Economics, in company with Army pilots recently at Dayton, Ohio, surveyed farm lands at an altitude of 5,000 feet and by means of a powerful camera developed at McCook Field obtained 60 photographs. "The major crops can easily be distinguished from the air," said Mr. West, "and I was particularly impressed with the way a farm shows up from an altitude of 5,000 feet. At present we have a crop census every five years. By airplane we could supplement this every summer."



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Nut Growers to Benefit Through Department Exhibits

Various phases of the nut industry in the United States, illustrated by photographs prepared by the department, will be shown at the annual meeting of the Northern Nut Growers' Association to be held in St. Louis September 22-24. These photographs, of which the Office of Horticultural Investigations has charge, have been especially enlarged and mounted for display on the convention walls. It has taken several years to assemble them, and many will be shown for the first time.

The photographs include sets on Persian (English) walnuts, black walnuts, chestnuts, filberts, almonds, and pecans. The latter series is especially important to nut growers, as the pecan is of concern to more planters in this country than are all other commercial species of nuts combined. Also, it has been under cultivation for a relatively short time compared to other orchard fruits.

Other interesting exhibits will also be on display at the meeting. One includes the Rood collection of the nuts of the world, now the property of the Albany (Ga.) Exchange National Bank, which the latter has turned over to the department for correct names and legends. This collection consists of approximately 200 lots, representing 50 to 75 species. With extensive supplements to be made either directly by the department or under its supervision this collection is expected to be the most complete assembly of nuts ever shown the public. Among them are pili nuts from the Philippines, often compared with the pecan; lychee nuts from China; Queensland nuts from Australia; cashew nuts from the tropics, which, though closely related to poison ivy, are made very edible by roasting; Turkish pistache nuts grown in California; pignolia or stone pine nut kernels from southern Europe; pinons from our own South-

west; Paradise nuts from Brazil, and many others. While a majority of the nuts are edible, some are inedible but highly important in manufacturing. Others are poisonous to the touch until properly prepared, and some fatal if eaten.

Along with the exhibits there will be a display of nut equipment used in the industry, such as nut crackers, both table and power; nut graders; tools and other equipment used in budding and grafting; pruning saws; and kindred articles.

A special feature of highly educational value will be a large outline map of the United States, prepared by the department, which will be placed upon a table and nuts of the different species laid over the sections in which they grow.

WORLD TOBACCO PRODUCTION

Last year in all the countries of the world for which figures are available the total production of tobacco was 2,686,000,000 pounds. This was a decrease of 2 per cent over the preceding year, but the production, according to the department, is still larger than it was in the same countries before the war. Most of the decrease in production is accounted for by shrinkage in the United States and in Greece. This country produced 272,000,000 pounds less than the preceding year, and in Greece there was a drop of 85,000,000 pounds. Turkey and the Dutch East Indies increased their productions and made up part of this loss. The United States grows about half of the tobacco that is reported in the world and about half of the total raw tobacco that enters into international trade. It was the increase in production in this country that caused most of the world gains in tobacco production over pre-war production. Greece and Japan have also contributed to building up the total. Such well-known tobacco countries as the Dutch East Indies, Russia, Hungary, and Cuba have shown a decreased crop.

CIVIL SERVICE ANNOUNCEMENT

Associate agricultural economist (agricultural history), \$3,000; associate agricultural economist (farm finance), \$3,000. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from these examinations. Advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close September 29, 1925.

Edwin Smith Returns With European Fruit Market Data

A vivid impression of the relative greater importance of the commerce in fresh fruits and vegetables in the United States over this phase of commerce in the Old World was given Edwin Smith, foreign marketing specialist of the department, who has just returned to Washington from a study of the fruit markets of Europe over a period of nine months. He states that this is not because the older civilization likes fruit less but is directly traceable to our placing perishables before consumers in a fresher and more edible state during longer marketing seasons throughout the year. Scientific methods of production, standardized grades and packages, conservation through handling and refrigeration and a degree of marketing efficiency that returns fruit and vegetable growers a margin of profit are the real reasons why American consumers have a greater assortment of fresh fruits and vegetables continually before them and why they are greater consumers of this type of food than are the people of Europe.

"Present indications," he said, "are that Europe will absorb as many American and Canadian apples this year as last, although the English apple crop is better than last year. A heavy crop of apples in Nova Scotia will somewhat offset Virginia's shortage, while in boxed apples British Columbia's reduced crop will ease up on the competition of the Pacific coast States.

"One of the topics of conversation among members of the fruit trade of Great Britain relates to the tremendous strides made during the last year by grapefruit in the British Isles. It jumped from one of the rare exotic fruits, seen only in large centers, to a regular article of trade. Were American producers to get behind it with a continued educational program, it seems certain that grapefruit might be absorbed in European markets in large quantities."

SECRETARY HAS TONSIL OPERATION

Secretary Jardine, who entered Walter Reed Hospital, Washington, D. C., August 4, was operated upon August 17 for the removal of infected tonsils. Latest reports from the hospital are that the Secretary's temperature and pulse are normal and satisfactory progress is being made. He will probably be back at his office around September 1.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is a well-balanced diet from a practical standpoint?

Answer. The well-balanced diet provides within the limits of the fuel, or calories, needed to maintain the best body weight for age and height; Protein, right in kind and amount; iron; calcium; phosphorus; and vitamins A, B, and C. The diet should be either bulky or "potentially" bulky; that is, capable of increasing in volume as it passes through the body. Balance should be extended also to matters that affect taste. There must be a variety of flavors. Bland, sweet, sour, and savory foods must be used in right proportions, and either carefully blended or skillfully contrasted. So, too, with textures. Hardness, softness, starchiness, fattiness, crispness, and succulence are all pleasing qualities, but they must be balanced one with another if the diet as a whole is to be attractive.

Question. How do the cows of the United States compare in production with those of other countries?

Answer. Figures are not available for all countries for one and the same year, but the following table has been prepared from the latest information available for the various countries:

Country	Year	Average yield of milk	Rank
Netherlands	1902	7,585	1
Switzerland	1922	6,614	2
Denmark	1922	5,622	3
United Kingdom	1922	5,562	4
Germany	1919	4,850	5
United States	1923	4,260	6
Canada	1921	4,003	7
Sweden	1911	3,600	8
France	1923	3,599	9
Norway	1915	3,508	10
Japan	1918	3,339	11
Australia	1922	3,019	12
Hungary	1914	2,932	13
Italy	1914	2,279	14
Chile	1916	1,520	15
Siberia	1916	1,192	16

* Not including Ireland.

Question. When are seeds unfit for seeding purposes within the meaning of the seed importation act?

Answer:

1. When they are adulterated with other seeds of similar appearance but of lower market value.

2. When they contain in excess of 3 per cent of weed seeds.

3. When clover or alfalfa seed contains in excess of 90 seeds of dodder to the pound of seed.

4. When less than 65 per cent of the bulk is live seed of the kind being imported.

Extension Workers Called Upon For Fund of Information

From the wide scope of questions asked home demonstration agents, some people evidently expect them to be "walking encyclopedias" of home economies. An extension worker in Bear Lake County, Idaho, who found the questions coming in thick and fast, decided to record what the farm women with whom she worked wanted to know. At the end of three days she reported that she had been asked, and had answered to the best of her ability, the following questions, which do not include those connected with the regular home demonstration work or meetings:

"Some pickle recipes." "Will dill pickles spoil? How do you detect the spoilage, and what do you do?" "The best method of mitering corners." "How to remove stains from a blouse." "How to dye velvet." "Suggestions for remodeling hats." "How to remodel some old dresses." "How to make over a fur coat." "How to make over a cloth coat." "Some ways to use sugar and flour sacks." "Ideas for Christmas presents." "How do you dye a dress, and what colors give the best results?" "Some ideas for making children's clothes." "Help in making my own clothes." "How do you paint weeds for decorative purposes?" "How can I best patch a man's clothing when torn?" "Method of canning peas, beans, corn, and tomatoes." "How do you know when meat is spoiled?" "A menu for a family reunion, including a color scheme and decorations." "A week's menus for a diabetic." "What colors can I dye tan wool?" "Some salad recipes." "Egg recipes." "A color scheme for a centerpiece." "Some recipes for cooking common vegetables so the meals won't be so monotonous." "What sort of a dress should I buy?" "Who should wear earrings?" "How do you clean silk?" "How do you dye shoes?" "How much fat should I use in pastry?" "Questions which might be asked a canning club team." "A good practical kitchen apron pattern." "A list of good standard novels." "My dress draws to the back after being cut by a pattern I bought. Can I prevent that or have I spoiled my dress material?"

Regular home demonstration work done by this extension worker, since coming

to Bear Lake County in 1921, has included organizing the women into community groups for extension activities—membership in these groups reached 869 last year, with 140 members in farm girls' clubs in addition—and work on a long-time clothing and nutrition program.

The nutrition work last year included training of local leaders from seven communities in giving a series of 12 nutrition programs for group meetings, covering food selection; digestion; meal planning for the pre-school age, school children, and the family; causes and methods of remedying malnutrition; and meal planning and preparation for sick and convalescents. These subjects were supplemented by demonstrations in preparation of vegetables which could be grown in the county. Clothing work began with millinery and has grown to include making and use of dress forms, use of patterns, and some study of design and home decoration.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Minnesota.—Silas E. Sampson has been appointed county agent for Traverse County to succeed F. F. Moore, who has resigned to engage in business for himself.

New Mexico.—Veda Strong has been appointed assistant State home demonstration agent. E. E. Anderson, recently appointed dairy-poultry specialist, will enter upon his duties September 1.

IMPORTANT DEVELOPMENTS

Fifteen emergency boll-weevil workers have been placed in strategic cotton counties in North Carolina in an effort to forestall as much as possible damage from boll weevils. These men, who are supplementing the efforts of the county agents, aid the farmers by making infestation counts and recommend poisoning when the weevils become sufficiently numerous to justify the expense. They also discourage dusting until weevils become numerous. The eastern half of the cotton section of the State has been favorable to boll-weevil development and considerable damage is reported. The remainder of the State is dry enough, so that there is fairly good weevil control. Thirty-five hundred acres in Scotland and Richmond Counties are being dusted by contract from aeroplane.

FORTHCOMING EVENTS

Farmers' Week in Georgia will be held at Camp Wilkins August 24 to 28.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

WEATHER BUREAU WORK ON HIGH SEAS

An extensive service maintained by the Weather Bureau, and one that is altogether unique among Government activities, is the marine meteorological work. It extends literally to the ends of the earth and numbers among its active personnel vessel masters and other officers of the world's merchant marine of almost every nationality.

The service is conducted upon a strictly cooperative basis. In return for observational data the Government returns to seamen, by means of various publications and radio broadcasts, meteorological information of value in the operation of shipping. In this work the Weather Bureau cooperates closely with the Hydrographic Office and the Office of Communications of the Navy Department. The Hydrographic Office publishes and distributes the so-called Pilot Charts, well and favorably known to all mariners. On these charts are portrayed average, or normal, conditions of wind and weather for all the oceans, representing compilations of untold thousands of observations, extending over many years. These data are supplied by the Weather Bureau. Other valuable information is furnished by the Hydrographic Office.

In the course of a year the bureau receives observations from about 1,400 different ships and the number of individual observations runs into large figures. Many vessels which report to the bureau never visit an American port. The officers of such vessels learn of the work through other officers who are engaged in the work or note the invitation to cooperate that is carried upon various publications. Those sufficiently interested write to offer their services. Instructions for making and recording observations, printed in English, are supplied to all observers, and, in addition, brief instructions in French, German, Italian, and Spanish are added for the benefit of those observers who are not familiar with English.

In addition to the observations collected by mail the bureau now receives daily many observations transmitted by radio from ships at sea, having in recent years built up an extensive service of this character. The radio service is maintained in connection with the forecast and storm-warning work, and is especially effective in the collection and

dissemination of information regarding West Indian hurricanes.

The ocean meteorological work was begun by Lieut. Matthew Fontaine Maury, of the United States Navy, in the early fifties of the last century. From the observations collected Maury was able to construct wind and current charts of the oceans and to lay out favorable sailing routes. His work had a profound effect on shipping and won for him world-wide fame and honors. At the present day the observations collected are principally used in constructing daily weather charts, tracing storm tracks, supplying information for use in admiralty cases, and in studying the influence of ocean water temperatures on weather and climate.

COLLEGE SHORT COURSE FILMED

The short course for boys and girls at the State agricultural colleges, where once each year members of farm boys and girls clubs gather for study in farming and homemaking and lay the foundation for an education in agriculture or home economics, is portrayed on the motion-picture screen in a new department educational film, "The Short Course."

The course shown in the film was conducted by the State agricultural extension service in cooperation with the United States Department of Agriculture. It was attended by about 1,000 boys and girls. They were taught such practical subjects as beekeeping, botany, stock judging, poultry husbandry, buttermaking, and the various sciences which apply to the farm and household. The "gospel of good health" was not neglected, and the Jacks and Jills were safeguarded against becoming dull boys and girls by setting-up exercises, baseball, swimming, and other clean, healthful sports. The "style show," "stunts," and other institutions of the short course, including the taking of the "go-to-college" pledge by the enthusiastic club members, are also depicted. The short course ends with a big parade, and the boys and girls depart for their homes to put their newly gained knowledge into practical use.

"The Short Course" was photographed on the historic and picturesque campus of Louisiana State University, at Baton Rouge, famed for its huge trees of live oak and its hanging Spanish moss, and is replete with scenes of rare natural beauty. It is one reel in length.

Dr. Wilhelm Marinelli, of the University of Vienna, Austria, spent two days recently studying specimens of bears and other carnivores in the Biological Survey mammal collection in the National Museum.

WITH EXTENSION FORCES

TREE PLANTING FOR SHELTER BELTS

During the tree-planting season in 1924 the first county-wide extension program to be carried out in Iowa for stimulating interest in planting trees, especially windbreaks for farm fields and buildings, was undertaken by Story County, with the result that plantings totaling 2,056 trees were made on 13 demonstrations in 12 townships.

Some demonstration plantings had been established in the county in previous seasons. With these as a basis, County Agent A. H. Pickford discussed the desirability of shelter-belt plantings, both through the press and at the township annual meetings in the winter of 1923-24. The proposition of establishing a demonstration in each township on a systematic plan was put up to the county and approved for the county extension program of work.

Cooperators were selected by the local township extension organizations from among persons interested who were able to meet the necessary requirements and were willing to carry out the plans.

This selection was followed by a field survey, made by a forestry specialist from the State extension service, of the proposed demonstrations to determine the type of planting, location of the trees, and similar matters. All work on the tree-planting program was supervised by I. T. Bode, extension professor of forestry of the Iowa extension service.

A definite week was set in the spring of 1924, during which all of the plantings were to be made. Trees for the purpose were furnished by the Iowa experiment station, packing and shipping costs paid by the cooperators. Three of the plantings were selected as training demonstrations and were made the first three days of the week. Each of the other cooperators was to attend at least one of these training demonstrations and then make his own planting during the last two days of the week. This was accomplished without difficulty.

The plantings were followed up during the summer by the county agent to give any assistance on problems of cultivation or care. In the fall a forestry specialist visited the demonstrations to show what steps should be taken for winter care and to plan for replacements.

A check-up made recently showed that Story County has a shelter belt demonstration in 12 of the 15 townships in the county, with a survival of over 95 per cent of the original plantings.

BRIEF REVIEWS OF NEW BULLETINS

Effect of Feeding Green Rye and Green Cowpeas on the Flavor and Odor of Milk. By C. J. Babcock, assistant market milk specialist, Bureau of Dairying. Pp. 8, figs. 2, July, 1925. (Department Bulletin 1342.) Price, 5 cents.

That green rye and green cowpeas may be fed to dairy cows immediately after milking without unfavorably affecting either the flavor or odor of the milk is a fact which was developed by a series of feeding experiments carried on by the department. The investigation relative to the feeding of green rye was conducted with 10 Holstein and 10 Jersey cows representative of their respective breeds, and giving milk relatively free from abnormal flavors and odors. Exhaustive experiments disclosed the fact that as much as 30 pounds of green rye may be fed to dairy cows immediately after milking without producing a noticeable effect on either the flavor or odor of the milk. In similar feeding experiments with green cowpeas, 30 pounds of this feed was consumed by dairy cows immediately after milking without producing any pronounced objectionable flavor or odor in the milk. Green cowpeas tend to affect more unfavorably the flavor and odor of the milk than does green rye.

Game Laws for the Season 1925-26. A summary of the provisions of Federal, State, and provincial statutes. By Geo. A. Lawyer, chief United States Game Warden, and Frank L. Earnshaw, assistant, Interstate Commerce in Game, Bureau of Biological Survey. Pp. 46, August, 1925. (Farmers' Bulletin 1466.)

This is the twenty-sixth annual summary of Federal and other game laws and regulations. The provisions as set forth furnish brief and convenient synopses of the laws. Provisions relating to methods of capture, game refuges, enforcement of laws, disposition of fees and fines, and minor matters are omitted, as also are texts of Federal and Canadian laws and regulations relating to birds and game. The bulletin has been prepared primarily for the use of law-enforcement officials, sportsmen, conservationists, and others as an aid in the administration of the migratory-bird treaty and Lacey Acts.

Methods and Results of Cooperative Extension Work, reported through county agricultural agents, 1923. By H. W. Gilbertson and C. L. Chambers, field agents, Office of Cooperative Extension Work. Pp. 37, figs. 7, August, 1925. (Department Circular 347.) Price, 5 cents.

Concentration on the problem of methods for enabling the farmer to increase his net returns, a result of economic conditions which made that the paramount farm interest of the year, is reflected in this report. Economical production, through standardization and increased use of better crop varieties, use of better livestock, disease and pest control, better feeding, and more attention to market demands, was prominent in extension programs for the year. Means and methods used in advancing the adoption of recommended practices were more carefully considered, the reports indicated. With result demonstrations as a basis, the use of field meetings and tours, assistance of local leaders, community meetings, campaigns, educational exhibits, and modern new methods were effectively employed. Special thought was given to planning demonstrations that would be within the means of the average farmer and would be easy for him to adopt.

Emphasis was placed on having a sufficient number of demonstrations in each county to make the results convincing. Measure of progress was increasingly employed and found helpful, the report showed, not only in obtaining spread of influence of the demonstrations but in generally advancing the quantity and quality of the work.

Status of the Pronghorned Antelope, 1922-24. By Edward W. Nelson, chief, Bureau of Biological Survey. Pp. 64, pls. 6, figs. 21, August, 1925. (Department Bulletin 1346.) Price, 15 cents.

The pronghorn, or American antelope, is the only species of antelope indigenous to America. This bulletin gives a brief history of its habits, former great abundance, and of its gradual diminution in numbers before the advance of settlement, and methods for conservation. State refuges have been established in Nevada and others are proposed in Idaho. Restocking experiments conducted in 1924 on Federal refuges have proved successful, and the details of methods of capturing and transporting the antelope also are given. A census of antelope in North America, 1922-1924 shows approximately 30,300 of the animals on this continent. Wyoming has the largest number surviving in any State, but this is only a pitiful remnant of the vast numbers which once roamed its great open plains. Antelope are now reported from 27 sections and total 7,000 in that State, whereas in 1885 on the Big Sandy River alone they were estimated to number about 30,000, or as many as now survive on the whole continent.

ADDITIONAL PUBLICATIONS

Soil Survey of Lonoke County, Arkansas. By E. W. Knobel, Clarence Lounsberry, L. Vincent Davis, Earl D. Fowler, and A. W. Goke. Pp. 48, pls. 2, fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

Journal of Agricultural Research, vol. 30, No. 10, May 15, 1925. Contents: The Fertility of Sex Control by Artificial Insemination with Centrifuged Spermatozoa. (Wis.-29.) By Jay L. Lush.—Correlated Inheritance of Botanical Characters in Barley, and Manner of Reaction to Helminthosporium sativum. (Minn.-55.) By Fred Gilfee.—The Relation of Sulphur to Alfalfa Production. (Kans.-45.) By Oscar C. Bruce.—Carbon Trichloride as an Anthelmintic, and the Relation of Its Solubility to Anthelmintic Efficacy. (A-98.) By Maurice C. Hall, and Eloise B. Cram.—A Study of the Influence of Inoculation upon the Fermentation of Sauerkraut. (Wis.-30.) By O. R. Brunkow, W. H. Peterson, and E. B. Fred.—A physiological Study of *Mucor racemosus* and *Diplodia tubercula*.—The Sweet Potato Storage-Rot Fungus. (G-487.) By L. L. Hargett.—Microorganisms in Decomposing Oysters. (E-34.) By Albert C. Hunter and Bernard A. Linden.—The Egg-Producing Capacity of Ascarid lumbricoides. (A-75.) By Eloise B. Cram.—A Study of Essential Plant Foods Recoverable from the Manure of Dairy Cows. (S. D.-1.) By C. F. Wells and B. A. Dunbar.—Physiological and Biochemical Studies on Cereals. IV. On the Presence of Amino Acids and Polypeptides in the Ungerminated Rye Kernel. (G-491.) By S. L. Jodidi and J. G. Wangler. Pp. 893-994, il. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has

since been published semimonthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of August 10-15, 1925. Copies of these publications may be obtained from the stations issuing them:

The sheep stomach worm. G. H. Lamson, Jr. (Connecticut Storrs Sta. Bul. 128, pp. 211-251, figs. 8, May, 1925.)
University of Florida Agricultural Experiment Station report on the fiscal year ending June 30, 1924. W. Newell et al. Pp. 137R + XI, figs. 14.
Report of the Hawaii Agricultural Experiment Station, 1924. J. M. Westgate et al. Pp. 24, figs. 12.
The marketing of milk in the Chicago dairy district. H. A. Ross. (Illinois Sta. Bul. 269, pp. 457-540, figs. 16, June, 1925.)
Meteorological observations at the Massachusetts Agricultural Experiment Station. J. C. Ostrander and E. H. Wheeler. (Massachusetts Sta. Met. Bul. 439, pp. 4, July, 1925.)
Analyses of commercial feeding stuffs and registration for 1925. C. S. Cathcart et al. (New Jersey Sta. Bul. 415, pp. 78, June, 1925.)
New Jersey dry-mix: An effective summer fungicide for tree fruits. A. J. Farley. (New Jersey Sta. Circ. 177, pp. 8, figs. 2, June, 1925.)
Pollination and growing of the cherry. C. E. Slocater. (Oregon Sta. Bul. 212, pp. 40, figs. 14, May, 1925.)
Common vetch. H. A. Scotho and G. R. Hyslop. (Oregon Sta. Bul. 213, pp. 29, June, 1925.)
Phloridzin.—I. The significance of phloridzin in apple and pear tissue. II. The hydrolysis and estimation of phloridzin. E. M. Harvey. (Oregon Sta. Bul. 215, pp. 23, figs. 7, June, 1925.)
The control of core break-down in pears. H. Hartman. (Oregon Sta. Bul. 216, pp. 16, figs. 2, June, 1925.)
Development and value of Kentucky bluegrass pastures. J. W. White and F. J. Holben. (Pennsylvania Sta. Bul. 195, pp. 24, figs. 5, May, 1925.)
Studies with anthracnose infection in cottonseed. C. A. Ludwig. (South Carolina Sta. Bul. 222, pp. 52, figs. 14, Apr., 1925.)
Spinach fertilizers, second report. H. H. Zimmerman. (Virginia Truck Sta. Bul. 48, pp. 349-356, July, 1924.)
Black rot of kale. F. P. McWhorter. (Virginia Truck Sta. Bul. 49, pp. 357-363, figs. 3, Oct., 1924.)
Feeding experiments with grade beef cows raising calves. E. W. Sheets and R. H. Tuckwell. (West Virginia Sta. Bul. 190, pp. 20, figs. 8, May, 1925.)
The standard deviation in the weight of White Leghorn eggs (technical). H. Atwood. (West Virginia Sta. Bul. 195, pp. 22, June, 1925.)
Profits from phosphates. A. R. Whitson and G. Richards. (Wisconsin Sta. Bul. 376, pp. 22, figs. 12, (Apr., 1925.)
Intensive dairying in New Zealand and Wisconsin. H. L. Russell and T. Macklin. (Wisconsin Sta. Bul. 377, pp. 40, figs. 20, May, 1925.)

"Milk in the Home," a lantern-slide series prepared cooperatively by the Bureau of Dairying and the Office of Cooperative Extension Work to encourage greater use of milk in the home, is available now for the use of extension workers and others interested. There are 42 slides in the series, which is No. 174. Accompanying supplementary notes, prepared by Jessie M. Hoover, Bureau of Dairying, may be used in discussing the subject, if desired.

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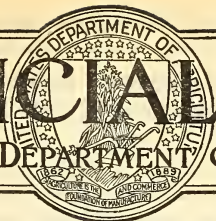
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Dr. Peter P. Susckin, a distinguished Russian ornithologist who has been spending several months in America, has returned to Washington after a tour of the West, and visited offices of the Biological Survey on August 13, and later examined the Biological Survey mammal collection in the National Museum.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., SEPTEMBER 2, 1925

No. 35

WILL ATTEND ROAD CONGRESS

Two Department Men Selected as Delegates to Meeting in Buenos Aires

Thomas H. MacDonald, chief of the Bureau of Public Roads, and Fred W. Perkins, in charge of the Office of Motion Pictures, Extension Service, will sail from New York September 3 to attend the Pan American Road Congress to be held in Buenos Aires October 3 to 13.

Mr. MacDonald is a member of the commission appointed by President Coolidge to represent the United States. The other members of the commission who are well known in the field of highway transportation are as follows: H. H. Rice, vice president General Motors Corporation, Detroit, Mich, chairman; Chas. M. Babcock, commissioner of highways, Minnesota; A. N. Johnson, dean Engineering College, University of Maryland; William E. Hull, Member of Congress from Illinois; Frank Page, chairman North Carolina State Highway Commission; Dr. G. A. Sherwell, secretary-general Inter-American High Commission. Members of the official party gathered in Washington on Monday and called on Secretary of State Kellogg, Secretary of Agriculture Jardine, and Secretary of Commerce Hoover, all of whom have a direct interest in the Buenos Aires meeting.

United States Anxious to Cooperate

In the designation of this official delegation, the President assured Latin America of the desire of this country to interchange views on highway construction and highway transport. Interest on the part of Latin America was evidenced last year when 39 delegates from 19 Republics visited this country as guests of the Highway Education Board, and after being received by President Coolidge made an extended tour studying American roads.

The itinerary of the commission from the United States will include stops in

Panama, Peru, and Chile. From Valparaiso, Chile, the Andes will be crossed by rail and the delegation will reach Buenos Aires two days in advance of the conference.

During the period of the conference visits will be made to other cities of the Argentine and probably Montevideo, Uruguay. Stops at Sao Paulo and Rio de Janeiro, Brazil, have been arranged for the return journey, and the party will land in New York on November 11.

Mr. MacDonald to Deliver a Paper

The congress itself will bring together the leading highway officials and engineers of the three Americas and a comprehensive program has been prepared. Mr. MacDonald has been invited to deliver a paper on highway administration in the United States. Latin-American engineers are particularly interested in this subject. Other members of the commission have been asked to present papers on important phases of highway construction and transport.

In order that a complete picture of conditions in the United States may be presented, an exhibit has been prepared by the Bureau of Public Roads consisting of charts and enlarged photographs relating to highway finance, construction, and use. Motion-picture films prepared by the Office of Motion Pictures and showing in detail the methods of construction of the principal types of highways have been forwarded.

Mr. Perkins to Film Activities

Mr. Perkins has been instructed by Secretary Jardine to accompany the United States delegation to the road congress. His object will be to make motion pictures of the activities of the congress and of road building and other activities of interest in carrying on the investigational and experimental work of the department. If time permits, pictures will be made of general agricultural conditions in some of the countries to be visited. The Argentine Embassy in Washington has shown much interest in this phase of the work and has offered cooperation from the Ministry of Agriculture in the Argentine.

(Continued on page 7)

THOMAS P. COOPER NEW CHIEF B. A. E.

Dean of Kentucky Agricultural Col- lege Accepts Post to Succeed Dr. H. C. Taylor

Thomas P. Cooper, dean of the college of agriculture and director of the experiment station, University of Kentucky, Lexington, has been named by Secretary Jardine as Chief of the Bureau of Agricultural Economics to succeed Dr. H. C. Taylor. Four years ago Dean Cooper was offered the position of head of the Bureau of Markets by Secretary Wallace and was tendered the same position by Secretary Houston at the time this bureau was formed, but declined in both instances.

Employed as a farm hand for several years on farms in western Minnesota and North Dakota, Mr. Cooper entered the University of Minnesota School of Agriculture. He was graduated from that university in 1908 with the degree of B. S. During the succeeding years he held important positions in the Northwest, and in 1914 was named Director of the North Dakota Experiment Station and Agricultural Extension Work. On January 1, 1918, he accepted his present position with the University of Kentucky.

Has Had Broad Experience

Dean Cooper has specialized in studies of farm organizations, farm management, and agricultural economics. He is the author of numerous bulletins, articles, and reports on agricultural subjects and brings to the department broad experience in agricultural matters, particularly as they pertain to the Northwest and the South.

Dean Cooper was president of the board of directors of the North Dakota Farmers Institute from 1914-1917, and is now vice chairman of the State Live-stock Sanitary Board of Kentucky. He is a member of the following organizations: Kentucky State Board of Agriculture, the American Association for

the Advancement of Science, the American Academy of Political and Social Science, the Society for the Promotion of Agricultural Science, and the American Farm Economic Association. He is a member of the following fraternities: Sigma XI, Alpha Zeta, Acacia.

In a communication to President McVey, of the University of Kentucky, asking that Dean Cooper be given a leave of absence to accept his new position, Secretary Jardine said that Mr. Cooper's acceptance of the office "would give him further opportunity to contribute to the cause of agriculture and that his appointment would do honor to Kentucky and to the agriculture of the South."

Dean Cooper will take up his new duties on September 1.

TWO STATES HOLD FIRST WOMEN'S CAMPS

The first farm women's vacation camp to be held by the Idaho extension service, at Starkey Hot Springs, July 4-8, had an enrollment of 70 women with about 20 more coming in for the meetings each day. Instructional work relating to foods, clothing, and home improvement, recreation, and inspirational talks composed the program.

Wyoming's first camps for farm women under the auspices of the State extension service were held at three points in the State, camp sites in Laramie, Park, and Sheridan Counties, during July and were of from two to four days' duration. Practically half of the counties in the State were represented in the enrollment. Programs of instructional and recreational character were carried out at each.

Madge J. Reese, office of Cooperative Extension Work, assisted with the program at each of these camps, and W. A. Lloyd, in charge western division, office of Cooperative Extension Work, attended the Park County (Wyo.) camp.

Jaak J. Umarik, chief of the agricultural education division, Ministry of Agriculture, Tallium, Esthonia, recently visited the department in connection with a study he is making of the United States system of agricultural teaching and research. Before coming to Washington Professor Umarik had spent some time in making first-hand observations of cooperative extension activities, particularly the boys' and girls' club work. He is taking back with him some of the department's lantern slides, photographs, and printed material on this subject which he feels may assist his country in planning somewhat similar work.

Entomologists Study Department's Work at Annual Field Meeting

Motor trips to adjacent points in Maryland and Virginia comprised an interesting and enjoyable feature of the sixth annual field meeting in Washington, D. C., July 29-31, of the Northeastern Branch of the American Association of Economic Entomologists. C. H. Hadley, of the Bureau of Entomology of the department, was in charge of the general arrangements of these meetings. The committee on local arrangements were E. R. Sasser, J. E. Graf, W. H. White, William Middleton, S. A. Rohwer, and J. A. Hyslop, all of the Bureau of Entomology. The official headquarters for the first two days of the meeting were at the Hotel Harrington, in Washington. Headquarters for the last day were at the Hotel Francis Scott Key, Frederick, Md.

The party left in 21 automobiles from the Hotel Harrington at 8 a. m. Wednesday morning, July 29, making the first stop at the Arlington Experiment Farm. Among the more important features pointed out by Director Butterfield was the interesting display of plants subjected to varying lengths of day, being part of the interesting work on daylight and plant growth, and some golf-green turf experiments, all being carried on by the Bureau of Plant Industry. An interesting feature was the removal of earthworms from golf-putting greens by the application of a solution of mercuric chloride. The last important feature viewed there was the oval track for testing road structure and materials by the Bureau of Public Roads, where the great lumbering truck was making its perpetual round.

At Falls Church, Va., a call was made at the laboratory of the office of Forest Insect Investigations, where a very interesting lecture was given by Dr. N. A. Cobb, of the Bureau of Plant Industry, on nematodes as a control for grasshoppers. It was well illustrated, especially by an exhibit of nematodes, including both living and slide material. The next stop was made at Vienna, Va., where the remainder of the morning was spent observing the work of the Federal Insecticide Board carried on there under the supervision of W. S. Abbott.

The party returned to Washington at about 1 o'clock, and after dinner took the steamer *Charles Macalester* for a trip to Mount Vernon, returning in time for an informal dinner at the Hotel Harrington.

Following the dinner short addresses on various insect pests under investigation were made by Messrs. Burgess,

Peterson, Smith, Graf, and Caffrey, of the Bureau of Entomology, and by Dr. W. L. Britton, State entomologist of Connecticut, who spoke on the *Anomala*, and W. S. Hough, assistant entomologist at the experiment station, Blacksburg, Va., whose topic was the banded leaf roller. A letter was read from H. A. Gossard, of the Ohio Experiment Station, president of the American Association of Economic Entomologists.

On the morning of July 30 the visitors were shown about the Bureau of Entomology, leaving there at 10 o'clock for the bee culture laboratory at Somers, Md., in charge of J. I. Hambleton, where the remainder of the morning was spent learning about the investigations in progress there.

The next stop was made at Sligo, Md., to visit the laboratory maintained there by the Divisions of Fruit Insects, Truck-Crop Insects, and Stored-Product Insects of the Bureau of Entomology, and observe the work carried on there by Messrs. Siegler, Popenoe, Simmons, and Snodgrass. Leaving there at about 1.30, the members of the party went to the University of Maryland, at College Park, where they were received by President A. F. Woods, of that institution, and were shown, among other interesting features, some experiments with stickers and various insecticides, conducted under the direction of Prof. E. N. Cory, State entomologist. The last visit for the day was next made at the Beltsville Experimental Farm, where J. L. Webb, acting in charge of Southern Field-Crop Insect Investigations, demonstrated some remarkable results of a fly-control campaign under his direction.

After returning to the Hotel Harrington, the party went in the evening to Frederick, Md. On the 31st rain prevented a field trip which had been planned. A joint meeting with the Maryland Horticultural Society previously arranged for was held in the forenoon, at which addresses were made by prominent Marylanders and others. Principal in the line of entomology were discussions on the oriental fruit moth, led by L. A. Stearns, of the New Jersey Experiment Station; the rosy aphid, led by Dr. T. J. Headlee, State Entomologist for New Jersey; and the Japanese beetle, led by L. B. Smith, in charge of the Japanese Beetle Laboratory of the Bureau of Entomology at Riverton, N. J. The summer meeting came to a close with an informal luncheon.

The Austrian crop report as of August 1 shows conditions of all crops considerable above average and better than reported on the same date last year.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

NEW ENGLAND DAIRY INDUSTRY SOUND

Although the dairy industry of New England is on a fundamentally sound basis, it is handicapped by the fact that there is a greater demand for butterfat than for the other valuable food elements in milk. Some new demand for a skimmed-milk product that will put the market for the protein of milk on a par with the market for butterfat is necessary really to solve the dairy marketing problem. This is the conclusion of a report on the New England dairy market which has just been issued by the department. The report is based on a study made by R. J. McFall, of the Massachusetts Agricultural College, under the direction of the New England Research Council on Marketing and Food Supply in cooperation with the New England Colleges of Agriculture, cooperative associations, State departments and commissions of agriculture, health authorities, railways, and many dealers.

ONION PRICES FLUCTUATE WIDELY

Alternations of high and low prices for farm products are due in part to the tendency of farmers to increase or decrease their crop acreage or livestock breeding in accordance with the prices received for their last crops. There is consequently a tendency for both shortages and surpluses to be exaggerated before they are corrected. A study of onion marketing by the department shows that onion growers regularly make the mistake of acting as if the price received one year were an index as to what prices will be the next year. In the eight seasons from 1917-18 to 1924-25, inclusive, years of prevailing high prices usually followed years when the bulk of the onion crop sold at comparatively low prices. There have been instances of two heavy years in succession during the last 10 years. Generally, however, it would have been fairly safe in this period to predict high prices for both early and late onions in a season following a year of heavy production and low prices.

FEWER CATTLE FOR MARKETING

There will probably be about 250,000 fewer cattle marketed from the range country this fall than last fall, with the principal reduction in the Southwest, ac-

ording to estimates of the department. The estimated number to be marketed this fall is 4,077,000 head, compared with 4,322,000 last fall and 4,208,000 in the fall of 1923.

WORLD WHEAT ESTIMATES INCREASE

Wheat production in 22 countries reported up to August 19 amounts to 2,222,000,000 bushels against 2,156,000,000 bushels for the same countries last year, according to information received by the department. These countries represent about 83 per cent of the Northern Hemisphere crop, outside of Russia and China, and 72 per cent of the world crop, outside of Russia and China.

MORE COTTON ACREAGE IN INDIA

The cotton planted in India at the time of the first, or August, estimate is 16,204,000 acres, which is 27 per cent more than the acreage reported at the same time last year, according to a cable received by the department from the Department of Statistics of India. This is the highest acreage reported in the first estimate since 1905-06. The August estimate last year was 12,712,000, and the total acreage for the year was estimated at 26,461,000 acres.

ISSUE STANDARDS FOR BEANS

Tentative standards for beans have been issued by the department following a series of public hearings in leading bean-producing sections of the country. The standards include 19 different classes of beans and are proposed for adoption and use by State and commercial agencies to demonstrate their practicability under commercial conditions before official standards are established.

HELP TO PROTECT THE BIRDS

For economic as well as for esthetic reasons the department urges that an effort be made to attract and protect birds and to increase their numbers. Birds feed upon practically all insect pests. They are voracious, able to move freely from place to place, and exert a steady influence in keeping down the swelling tide of insect life. It is not only possible to attract numerous species of birds by supplying boxes and other nesting facilities, says the department, but it has been amply proved that the total bird population on a given area can be raised far above normal by these and other methods of attraction. The larger the number of birds, of course, the greater the drain upon their food sup-

ply. If this food supply consists chiefly of injurious insects, man profits; if of the products of his cultivation, he suffers. All things considered, however, it is better to have more birds, for the injurious individuals or kinds can be controlled or suppressed, while the useful species, if not present in time of need, can not be hastily summoned. Experience has shown that those who have increased the number of birds on their property have had cause for satisfaction rather than regret.

SIR HENRY MAYBURY AT DEPARTMENT

Sir Henry F. Maybury, director general of the Roads Department, Ministry of Transport of the British Government, and recently elected chairman of the London and Home Counties Traffic Advisory Committee, visited the department last week.

As the head of the English Road Department, Sir Henry is interested in American methods of road construction and maintenance, and especially at this time in the elaborate experiments and researches of the Bureau of Public Roads, since he has recently been authorized by his Government to conduct similar experiments on a large scale in the endeavor to solve the highway-construction problems which are of so much importance in England.

As the Bureau of Public Roads corresponds in this country to the organization of which he is the head in England, Sir Henry was particularly interested in inspecting the laboratories and outdoor experiments of the bureau at the Arlington Experimental Farm, Arlington, Va., and in being conducted over representative improved roads in the vicinity of Washington.

Sir Henry Maybury rendered distinguished service to the British Government during the World War, when as director of roads in charge of the roads directorate in France he was responsible for the upkeep and construction of some 4,000 miles of roads used for the transportation of the British armies.

When the Ministry of Transport was created in 1919, Sir Henry was appointed director general of roads in charge of the roads department of that ministry. He is a member of the Institution of Civil Engineers, an honorary member of the Institute of Gas Engineers, an honorary member of the Institution of Municipal and County Engineers, and a fellow of the Royal Sanitary Institution. He is also a past president of the Institute of Transport.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Bureau of the Budget

CIRCULAR No. 164—August 12, 1925.—Upon the request of the Navy Department, Capt. W. S. Miller, U. S. Navy, is hereby relieved from further duty as coordinator, II Area, effective November 15, 1925.

In accordance with the provisions of Circular No. 15, Bureau of the Budget, dated July 27, 1921, and upon the recommendation of the Navy Department, Capt. Rufus F. Zogbaum, U. S. Navy, is hereby designated as coordinator, II Area. Captain Zogbaum will report on November 5, 1925, by letter to the Chief Coordinator and in person to Captain Miller for duty as his relief.

CIRCULAR No. 165—August 12, 1925.—Upon request of the Navy Department, Lieut. Commander Charles C. Copp (S. C.), U. S. Navy, is relieved from further duty with the Federal Traffic Board, effective on or about September 1, 1925.

Upon the recommendation of the Navy Department, Lieut. Independent W. Gorton (S. C.), U. S. Navy, is hereby detailed for duty with the Federal Traffic Board. Lieutenant Gorton will report in person to the Chief Coordinator for duty on or about September 1, 1925.

By direction of the President:

H. M. LORD,
Director of the Bureau of the Budget.

GREEN GOES TO BIOLOGICAL SURVEY

Daniel M. Green has been transferred from the Office of Exhibits to the Bureau of Biological Survey, where he will serve as an assistant in the division of fur resources in making more generally known the commercial importance of furs, emphasizing the need of maintaining the supply of raw material, explaining methods by which the supply may not only be maintained in quantity but improved in quality, and conducting experimental work on the fur farm of the Biological Survey at Saratoga, N. Y.

Mr. Green has been employed by the department for eight years. He entered the service as an extension poultry husbandman in 1917 and was employed in that position in the Bureau of Animal Industry until July, 1921, when he was transferred to the Office of Exhibits.

DEMAND FOR CIGARETTE TOBACCO

Smokers are tending away from cigars and toward the cigarette, according to figures collected by the department. This tendency for the demand for cigar tobaccos to slacken and the increased demand for cigarette type began to be noticeable shortly before the war. During the war the cigarette demand increased greatly and has continued growing since the armistice. Producers of the crop are accommodating themselves gradually to the changing demand, but not quite so rapidly as conditions justify. Stocks of cigar tobacco have accumulated and have been utilized to some extent in the manufacture of other products. The estimated acreage of cigar-type tobacco for 1925 is 143,000, which is 20,000 acres less than in 1923.

ADDITIONS TO MAILING LIST

The mailing lists record section, Office of Information, announces the establishment of the following mailing lists of the department:

Key No.	Bureau	Title of list
DAR.....	Forest Service.	Chapter Regents of the National Society of the Daughters of the American Revolution.
FNS-9.....	B. A. E.	Foreign News Service on Onions.
FNS-10.....	do.....	Foreign News Service on Rice.
FNS-11.....	do.....	Foreign News Service on Dairying.
FNS-12.....	do.....	Foreign News Service on Hemp.
FNS-13.....	do.....	Foreign News Service on Tobacco.
FNS-14.....	do.....	Foreign News Service on Prunes.
FNS-X.....	do.....	All Foreign News Service.
FW.....	Forest Service.	"The Forest Worker," a monthly publication.
PDS.....	B. P. L.	"Plant Disease Reporter," a semimonthly issue with monthly supplement.
PDS-F.....	do.....	Foreign section of list PDS.
TGA.....	B. A. E.	Truck Growers of Asparagus.
TGB.....	do.....	Truck Growers of Snap Beans.
TGF.....	do.....	Truck Growers of Cauliflower.
TGL.....	do.....	Truck Growers of Green Peas.
TGM.....	do.....	Truck Growers of Green Peppers.
TGU.....	do.....	Truck Growers of Spinach.
TGY.....	do.....	Truck Growers of Carrots.

AGRICULTURAL EXPERIMENT STATIONS

The Office of Experiment Stations has released the following list of agricultural experiment stations in the United States, corrected to date. It gives the post-office

addresses of the stations, followed by the name of the director or other officer in charge:

Alabama—
(College station) Auburn: M. J. Funchess.
(Canebrake station) Uniontown: W. A. Cammack.
(Tuskegee station) Tuskegee Institute: G. W. Carver.
Alaska—Sitka: C. C. Georgeson.
Arizona—Tucson: J. J. Thornber.
Arkansas—Fayetteville: D. T. Gray.
California—Berkeley: E. D. Merrill.
Colorado—Fort Collins: C. P. Gillette.
Connecticut—
(State station) New Haven: W. L. Slate, jr.
(Storrs station) Storrs.
Delaware—Newark: C. A. McCue.
Florida—Gainesville: Wilmon Newell.
Georgia—
(State station) Experiment: H. P. Stuckey.
(Coastal Plain station) Tifton: S. H. Starr.
Guam, Island of—Guam: C. W. Edwards.
Hawaii—
(Federal station) Honolulu: J. M. Westgate.
(Sugar planters' station) Honolulu: H. P. Agee.
Idaho—Moscow: E. J. Iddings.
Illinois—Urbana: H. W. Mumford.
Indiana—La Fayette: G. F. Curtiss.
Iowa—Ames: C. F. Curtiss.
Kansas—Manhattan: L. E. Call.
Kentucky—Lexington:
Louisiana—
(State station) University Station, Baton Rouge
(Sugar station) Baton Rouge
(North Louisiana station) Calhoun
(Rice station) Crowley
(Fruit and truck station) Hammond
Maine—Orono: W. J. Morse.
Maryland—College Park: H. J. Patterson.
Massachusetts—Amherst: S. B. Haskell.
Michigan—East Lansing: B. S. Shaw.
Minnesota—University Farm, St. Paul: W. C. Coffey.
Mississippi—A. and M. College: J. R. Ricks.
Missouri—
(College station) Columbia: F. B. Muford.
(Fruit station) Mountain Grove: F. W. Faurot.
(Poultry station) Mountain Grove: T. W. Noland.
Montana—Bozeman: F. B. Linfield.
Nebraska—Lincoln: E. A. Burnett.
Nevada—Reno: S. B. Doten.
New Hampshire—Durham: J. C. Kendall.
New Jersey—New Brunswick: J. G. Lipman.
New Mexico—State College: Fabian Garcia.
New York—
(State station) Geneva
(Cornell station) Ithaca: R. W. Thatcher.
North Carolina—(State College station) Raleigh: R. Y. Winters.
North Dakota—Agricultural College: P. F. Trowbridge.
Ohio—Wooster: C. G. Williams.
Oklahoma—Stillwater: C. T. Dowell.
Oregon—Corvallis: J. T. Jardine.
Pennsylvania—
(College station) State College: R. L. Watts.
(Institute of Animal Nutrition) State College: E. B. Forbes.
Porto Rico—
(Federal station) Mayaguez: D. W. May.
(Insular station) Rio Piedras: R. M. Ramos.
Rhode Island—Kingston: B. L. Hartwell.
South Carolina—Clemson College: H. W. Barre.
South Dakota—Brookings: J. W. Wilson.
Tennessee—Knoxville: C. A. Mooers.
Texas—College Station: B. Youngblood.
Utah—Logan: William Peterson.
Vermont—Burlington: J. L. Hills.
Virginia—
(College station) Blacksburg: A. W. Drinkard, jr.
(Truck station) Norfolk: T. C. Johnson.
Virgin Islands, U. S. A.—St. Croix: J. B. Thompson.
Washington—
(College station) Pullman: E. C. Johnson.
(Western Washington station) Puyallup: W. A. Linklater.
West Virginia—Morgantown: H. G. Knight.
Wisconsin—Madison: H. L. Russell.
Wyoming—Laramie: J. A. Hill.

¹ Superintendent.

NEW IDEAS AND DISCOVERIES

The Nemic Parasites of Grasshoppers

Until recently little was known about the nemas infesting American grasshoppers. Two of these nemas prove very interesting and are of economic significance in that they are important factors in the birth rate of grasshoppers; so much so that were it not for these parasites there is strong reason to believe that certain grasshoppers would be a perennial plague. Farmers know to their cost that these insects are bad enough as it is. Among the hoppers we find most infested (nematized) are such devastating species as the eastern red-legged locust and its relatives and the clear-winged locust of the Northwest; when nematized—and sometimes practically every hopper is nematized—these hoppers produce few or no eggs.

These particular nemas are classed as mermithids, of which no species in this country had, until the inception of these researches, even been adequately described. We now have carefully prepared descriptions and drawings of the parasitic stage of more than 100 species, nearly all new, and we believe this only a beginning—that the number of species may reach thousands, among them many others of economic importance. Of this number these investigations have disclosed the remarkable life histories of two, as they occurred in 1923-25 in Virginia and Massachusetts: (1) *Agamer-mis decaudata*, (2) *Mermis nigrescens* (or a closely allied form).

Decaudata is more common in the South, nigrescens in the North. Either can be found in the body cavity of hoppers in late summer, when they are several inches long, whitish, and look much alike, though really very different. A little later they begin to burrow into the soil, leaving the hoppers dead on the ground. During the autumn and winter the female nema matures her spherical eggs, decaudata in thousands, nigrescens in tens of thousands—decaudata plain and colorless (diameter 166 microns); nigrescens dark brown and "two-tailed" (diameter about 40 microns). At this period decaudata is whitish, nigrescens blackish; but after egg laying both become clear and glassy.

Decaudata eggs are deposited and hatch out in the ground, and the very active, microscopic, serpentine larvæ, 4-5 mm. long, come to the surface, seek out young hoppers, and drill their way into the body cavity of the insects by means of a spearlike mouth organ, at the same time dropping off the posterior

five-sixths of the body by breaking in two at a specially prepared node. Only the anterior sixth enters the hopper.

Nigrescens eggs are deposited in the spring mainly on young forage plants, of which the more suitable have the following properties: (1) *Early, erect growth*, (2) *hairiness*, (3) *attractiveness as food for young grasshoppers*. The extremely common Ribgrass, *Plantago lanceolata*, is an example. *Nigrescens* eggs deposited in or on its buds and young blades become entangled in the close "fur" of young leaf-hairs by means of two special, polar entangling filaments located on the egg cases, and as the leaves grow and the hairs spread apart, become scattered on the surface of the grown leaves, so that young grasshoppers feeding on the leaves, as they are fond of doing, ingest the viable eggs, usually only one or a few at a time. Weathered eggs usually become non-viable in course of the summer. An overdose of eggs would be a misfortune for the parasite, as well as the host, and seldom occurs. A hopper usually harbors from one to three nemas. The egg case and enclosed egg shell are softened and dissolved in their equatorial region after an hour or so in the grasshopper's stomach, and the two halves of the egg case fall away. Then the already fully prepared *nigrescens* larva, a third of a millimeter long, is liberated through two relatively large opposite holes in the egg shell, and, by means of a spear quite different from that of *decaudata*, makes its way through the wall of the grasshopper's alimentary canal and enters the body cavity, where it grows enormously and is ready to leave its host in late summer. Charcoal fed to a hopper appears in the feces in a few hours, showing how promptly the *nigrescens* larva must seize its opportunity, or be swept onward and out in the digestive stream of the hopper.

These two nemas, hitherto sometimes confused with other species and even with each other, and formerly placed always in the same genus, are so unlike as to make it doubtful whether they should be placed in the same subfamily.

We are attempting to colonize these grasshopper diseases by moving infested grasshoppers to areas where the grasshoppers are not infested. Entomologists everywhere have aided us, especially those of the United States Bureau of Entomology, but our attempts at colonizing are much handicapped by the present day lack of intimate knowledge of the habits of grasshoppers.

N. A. COBB.

G. STEINER.

J. R. CHRISTIE.

BUREAU OF PLANT INDUSTRY,

Washington, D. C.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question: What is the retirement age set by law? How many years' service are necessary before retirement?

Answer: Paragraph 1 of the retirement act of May 22, 1920, provides that employees in the classified civil service of the United States who reach the age of 70 years and who have rendered at least 15 years of service, computed as described in section 3 of the act, shall be eligible for retirement on an annuity as provided in section 2 thereof: *Provided*, That mechanics, city and rural letter carriers, and post-office clerks shall be eligible for retirement at 65 years of age and railway postal clerks at 62 years of age, if said mechanics, city and rural letter carriers, post-office clerks, and railway postal clerks shall have rendered at least 15 years of service computed as prescribed in section 3 of the act.

Question: What is the uniform of an officer of the Forest Service? Is the wearing of this uniform obligatory?

Answer: The Forest Service uniform is forestry green in color and may be made of unfinished worsted, serge, whipcord, or cotton khaki. The coat is a modified Norfolk jacket; trousers, straight-cut without cuffs, or riding breeches; hat, gray and of either the low sombrero or soft Stetson styles; puttees, dark tan leather or forestry green cloth (spirals); shirt, forestry green or olive drab; necktie, black; buttons, vegetable ivory stamped with the Forest Service shield. Optional garments are vests, cruising coats, high-topped shoes, riding boots, Mackinaw coats, and forestry green caps.

The wearing of the uniform is not obligatory. The regulations provide that the uniform shall be worn when in the judgment of the individual the wearing of it is desirable for the work in hand. As a matter of practice nearly all officers of the Forest Service wear the uniform whenever on duty in the field. The wearing of the Forest Service badge, however, is obligatory when Forest Service officers and employees are on field duty.

Dr. A. C. Baker has been detailed by Secretary Jardine to the Personnel Classification Board, where he will be engaged for some time in the preparation of specifications covering the character of work and the required qualifications for positions in the field of entomology and those of a related character.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

COLLECT EXCESS WOOL PROFITS

To secure the quantity of wool which was needed by the United States Government for war purposes, the handling of the domestic wool clip of 1918 was governed by regulations issued by the former War Industries Board, which fixed the price of wool and limited the profit which might be made by dealers. The powers and functions of the Wool Division of the War Industries Board, particularly those relating to payment by the dealers of any sums due by them in accordance with the regulations and the disposition of such payments, were transferred to the former Bureau of Markets by Executive order dated December 31, 1918. Since that time the domestic-wool section of that bureau (now a part of the Bureau of Agricultural Economics) has secured reports from all dealers, so far as known, comprising 178 distributing center dealers and over 5,000 country dealers, and has audited such reports, called upon dealers for the payment of excess profits, filed suits in Federal district courts in cases in which collection could not otherwise be made, and has distributed the money collected among the growers of the wool so far as practicable.

The bureau's audits of dealers' reports show that 76 out of the 178 central dealers and 965 of the 5,000 or more country dealers made excess profits and that the total excess profits made on the 1918 wool clip amounted to \$1,489,866.96. Of this amount \$754,144.37 has been collected to May 31, 1925, out of which \$448,721.15 has been placed in the hands of woolgrowers. Of the balance on hand, \$238,266.46 can not be distributed because it is not possible to secure a record of the growers who are entitled to the money, and therefore this amount may be turned into miscellaneous receipts of the Treasury. Payments amounting to \$48,887.38 have been made under protest, and therefore can not yet be distributed. This leaves only \$18,269.38 which is now in process of distribution, a considerable portion of which will remain undistributable.

On account of the insolvency of firms or the death of dealers with no assets, \$34,444.52 can not be collected. The excess wool profits yet to be collected amount to \$701,278.07, which is nearly one-half of the total excess wool profits made by dealers in 1918, approximately

93 per cent of which is owing by only 12 dealers. One of these involves nearly \$300,000. Of the cases in the hands of the Department of Justice during the past four and a half years, 8 cases have been collected as a result of judgments, 8 cases have been collected without court action, 4 cases are awaiting execution of judgments, and 8 cases have been closed because no assets were available. In two cases decisions have been rendered by the courts which are adverse to the Government. An appeal is being carried to the Supreme Court of the United States.

WITH EXTENSION FORCES

WHOLE FAMILY GOES TO COLLEGE

Farmers' summer camp, farm women's vacation camp, boys' and girls' club week, and volunteer club leaders' conference, all in progress at the same time, made the campus of Washington State College, Pullman, a lively place the week of June 22. Altogether 1,000 farmers, farm women, and farm boys and girls arrived and were comfortably settled in the college dormitories and fraternity houses between 7 p. m. of June 21 and 1 o'clock the next afternoon. Three railroads ran special trains into Pullman for the accommodation of those wishing to attend, and the round-trip rate from the coast was less than half fare.

"Big week," they called it, and big week it was, carefully organized under the management of the extension staff. Four separate programs were in progress each day, with a general assembly following the noon hour and in the evenings. Tours were made each day to interesting places about the campus and to the college farm in which anyone who wished might participate.

The recreational program for the 653 club members and the 159 women was in charge of a recreation specialist and 10 or 12 young college students, former club members, who, under the specialist's direction, took charge of groups of club boys and girls in play each day. An hour and a half was spent with the women each day, part for suggestive talks on recreation and the remainder for actual play. The men reserved time between afternoon demonstrations and dinner for ball games and horseshoe tournaments.

Physical examination of 400 boys and girls was made during one day without interfering with the regular program. Each club member examined was given a record with recommendations and suggestions by the examining physicians and dentists.

Farmers' class work was largely demonstrational, with a minimum of lecture, and included poultry, livestock, dairy, horticulture, crops, and marketing subjects.

Home makers in camp had the choice of intensive work in one of four subjects—millinery, clothing construction, home furnishings, or food preparation—while women who were volunteer leaders undertook one of three projects—clothing, home management, or nutrition.

Boys and girls enrolled in clothing, garden, food, dairy, home management, poultry, swine, sheep, potato, beef, corn, and bee projects. Team-demonstration contests among the boys and girls, held on Friday, were worked out largely by the club members with the help of the instructors that week, and demonstrated phases of work in which they had received instruction.

Special conferences were planned for the 96 volunteer club leaders to discuss best methods of conducting club work. Club members and volunteer club leaders represented 33 counties.

On Friday afternoon all handicraft work, refinished furniture, millinery, and sewing, which had been done by the women and the club girls, was put on exhibit for the benefit of all groups. The sewing-club exhibits were especially interesting. Each group had completed one of seven units—one of all linens and draperies needed for a girl's room; one of things needed for the dining room; a household work, or kitchen, unit; an infant's layette; an outfit for a 4-year-old boy and a 4-year-old girl; a school costume for a 14-year-old girl; and a summer costume for the club girl.

A pageant, "The spirit of club work," in which the entire group of boys and girls participated, was given Friday evening. Club members, representing 12 counties, broadcast a radio program of county-club songs, yells, and stories from the college station. Club stunt night was a general assembly. The women had their own evening of stunts. Club yell and song contests were held in the early evenings on the campus. An auto-banner contest was staged. The banners, strung on a wire across the campus, made a most colorful and interesting display.

Ample time for recreation and entertainment was provided for everyone. It was an opportunity for meeting interesting people, for new experiences, and "going to college" possibly for some the first time. And permeating and crowning everything was the joyous spirit of the club boys and girls in work and play, deepening faith in club work, giving a new impulse to adult support and cooperation, and arousing keener desire to be good leaders in extension work.

Madge J. Reese, western division, Office of Cooperative Extension Work, assisted with the programs and took part in the local leaders' and extension agents' conferences.

BRIEF REVIEWS OF NEW BULLETINS

Family Living from the Farm. Data from 30 Farming Localities in 21 States for the Years 1918-1922. By H. W. Hawthorne, associate agricultural economist, Bureau of Agricultural Economics. Pp. 81, figs. 5. August, 1925. (Department Bulletin 1338.) Price, 5 cents.

Above their cash income from the farm, farmers have other income in the form of food products which they set aside for the use of their families, uses of their houses, which saves cash rent, and the fuel for heating and cooking. This part of the farm family's income has been rather disregarded in the calculations of farmers in the past, especially in those cases where cash for such items had never been paid, hence the farmer had little idea of their money value. In the 30 farming localities in 21 States in which this item was studied by the department these items, in the aggregate, represented an appreciable part of the cost of living of the farm families on the one hand and of the returns from the farm business on the other. Details and discussions, aided by charts, maps, and tables, are found in this bulletin.

The Common Barberry and How to Kill It. By F. E. Kempton, Associate Pathologist in Charge of the Barberry-Eradication Campaign, and Noel F. Thompson, Associate Pathologist, Bureau of Plant Industry. Pp. 4, figs. 3. July, 1925. (Department Circular 356.) Price, 5 cents.

This circular recommends the salt or kerosene method of killing the common barberry to prevent the spread of black stem rust of small grains. Among the several advantages which this method has over the digging method formerly used, are less labor required and greater certainty of success in stony ground, where digging is difficult. The circular also gives a good description of the common barberry, which is harmful, and of the Japanese barberry, which is not harmful. The latter should not be destroyed, as it is a desirable ornamental shrub.

ADDITIONAL PUBLICATIONS

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 94. Official Standards of the United States for American Cotton Linters. August 6, 1925. Pp. 9. Price, 5 cents.

No. 95. Regulations of the Secretary of Agriculture under the United States Cotton Standards Act Effective August 1, 1925. Pp. 28. Price, 5 cents.

Bureau of Biological Service. No. 63. Text of Laws of the United States and Canada Relating to Game and Birds. Pp. 22. Aug. 22, 1925. Price, 5 cents.

Experiment Station Record. Vol. 53. No. 1. July, 1925. Pp. 1-100. Price, 10 cents.

Note.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 40 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 30, No. 11. June 1, 1925. Contents: Factors Affecting Reproduction of Engelmann Spruce. (P-30.) By W. C. Lowdermilk.—The Role of the Hydrogen-Ion Concentration on the Development of Pigments in Fusaria. (Calif.-39.) By Christos P. Sideris.—Effect of Seeds upon Hydrogen-Ion Concentration Equilibrium in Solution. (N. J.-14.) By Wilhelm Rudolfs.—Fusarium Resistant Cabages: Progress with Second Hybrid Varieties. (G-47.) By L. R. Jones, J. C. Walker, and John Monteith, Jr.—The Cot-

tony Leak of Cucumbers Caused by Pythium aphanidermatum. (G-427.) By Charles Drechsler.—Comparative Studies of Pythium debaryanum and Two Related Species from Geranium. (G-486.) By Harry Braum.—Variation in the Kherson Out at Akron. (G-401.) By F. A. Coffman and T. R. Stanton.—Relation Between Weather Conditions and Yield of Cotton in Louisiana. (N.-1.) By Bradford B. Smith.—Relative Susceptibility of Some Rutaceous Plants to Attack by the Citrus-Scab Fungus. (F-497.) By John R. Winston, John J. Bowman, and Walter J. Bach. Pp. 995-1093, 11. Price, 10 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of August 17-22, 1925. Copies of these publications may be obtained from the stations issuing them:

Georgia Coastal Plain Experiment Station, Tifton, Georgia, fifth annual report, 1924. S. H. Starr. Pp. 54. figs. 24. Artificial brooding. R. T. Parkhurst. (Idaho Sta. Bul. 139, pp. 20, figs. 9. Aug. 1925.) The relation of some chemical constituents to the grades of Kentucky tobacco. O. M. Shedd. (Kentucky Sta. Bul. 258, pp. 33-58. Apr., 1925.)

Thirty-second annual report of the [Minnesota] Agricultural Experiment Station, 1923-24.—Part III, Popular discussions of some of the experimental work in agronomy, soils, horticulture, and forestry. Pp. 35, figs. 21.

Hardy alfalfa for Nebraska. T. A. Kieselbach and A. Anderson. (Nebraska Sta. Circ. 32, pp. 8, figs. 6. Aug., 1925.)

Thirty-eighth annual report of the Agricultural Experiment Station of Nebraska, 1924-1. E. A. Burnett and W. W. Burr. Pp. 46.

An economic study of the marketing of New York potatoes. M. P. Rasmussen. (New York Cornell Sta. Bul. 440, pp. 177, figs. 53. June, 1925.)

The tractor on Ohio farms. F. L. Morison. (Ohio Sta. Bul. 383, pp. 30, fig. 1. May, 1925.)

The soy bean in Ohio. L. E. Thatcher. (Ohio Sta. Bul. 384, pp. 31-68, figs. 3. May, 1925.)

The monthly Bulletin. (Ohio Sta. Mo. Bul. vol. 10, No. 5-6, pp. 65-96, figs. 4. May-June, 1925.)

The Bimonthly Bulletin. (Ohio Sta. Bimo. Bul. vol. 10, No. 7, pp. 97-128, figs. 6. July-Aug., 1925.)

The substitution of stable manure by fertilizers, green manures, and peat. II. B. L. Hartwell and F. K. Crandall. (Rhode Island Sta. Bul. 201, pp. 16. June, 1925.)

Articles by Department Workers
In Current Publications

Bradford, H. B. (Entomology). Small-boat sailing. The Rudder, vol. 41, No. 7, pp. 17-19, illus. July, 1925.

Chittenden, F. H. (Entomology). Note on the behavior of *Leptoglossus oppositus* Say. Bulletin of the Brooklyn Entomological Society, vol. 20, No. 3, pp. 148-149. June, 1925.

Goldbeck, A. T. (Public Roads). Crushed Stone and Gravel for Concrete Highways. Highway Engineer and Contractor, vol. 13, pp. 43-5. Aug., 1925.

Leach, B. R. (Entomology). Improvements in the method of treating golf greens for the control of the Japanese beetle. U. S. Golf Association. Bulletin of the Green Section, vol. 5, No. 5, pp. 100-102. May 16, 1925.

Mann, W. M. (Entomology). Guests of Eciton hamatum (Fab.) collected by Professor W. M. Wheeler. Psyche, vol. 32, No. 3, pp. 166-177. June, 1925.

Marler, C. L. (Entomology). The Washington conference of State and Federal quarantine officials. Special bulletin 54, California Department of Agriculture, pp. 50-55. 1925.

Purcell, C. H. (Public Roads). Building Oregon's Great Highway System. Highway Magazine, vol. 16, pp. 3-8. Aug., 1925.

Reeves, G. I. (Entomology). Some early history of alfalfa weevil quarantine. Special bulletin 54, California Department of Agriculture, pp. 65-71. 1925.

Saint-George, R. A. (Entomology). The recent death of large quantities of southern pine. The American Lumberman, No. 2607, pp. 50-51, illus. May 2, 1925.

Snodgrass, R. E. (Entomology). Insect musicians; their music and their instruments. Smithsonian Report for 1923, pp. 405-452, 35 figs. 1925.

Warren, Gertrude L. (Office of Cooperative Extension Work). Summer camps for the four-H clubs. St. Nicholas, vol. 52, no. 9, pp. 918-924. July, 1925.

DEVICE ON TRAIN MEASURES ACREAGE

A device for measuring the acreage of various agricultural crops for comparative reports and charts has been successfully adapted to a railway train by statisticians of the department. The instrument is in the nature of an automobile speedometer and when attached to the gear of the railway car measures and records the number of feet of each kind of crop along the right of way. It was designed in 1923 for use on an automobile and was first used successfully in that capacity.

The first railway crop-meter measurements were made recently by a department statistician who made a 279-mile trip on a Georgia railway line. The data thus collected can be used to compare the percentage of one crop with another any year and also the percentage of one crop one year with the same crop in other years by repeating the trip over the same route.

WILL ATTEND ROAD CONFERENCE

(Continued from page 1)

On the occasion of the visit last year to the United States of the Pan American Highway Commission, composed of representatives from 19 Central and South American countries, the Department of Agriculture, at the request of the Pan American Union and with the cooperation of other Government agencies, made two films, "Road Building in the United States" and "A Highway of Friendship." Eleven copies of these films, with titles in the Spanish and Portuguese languages, are now being circulated in the Latin-American countries, through cooperation between the Department of Agriculture, the Department of Commerce, Highway Education Board, and the Pan American Confederation for Highway Education.

In a recent statement relating to the very good milk supply of Sunbury, Pa., Dr. John B. Cressinger, superintendent of public safety and health of that city, says: "About 90 per cent of our milk is from tuberculin tested herds. This is due to the work of the county agricultural agent, supported by the State, and more or less voluntary."

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Lisbon. Instituto superior de agronomia. Anais. Ano 1, no. 1, 1920.
South Africa. Sugar inquiry commission. Report. Cape Town, Cape Times, 1922.

DOMESTIC ANIMALS AND VETERINARY MEDICINE

Congreso internacional de medicina veterinaria e industria ganadera. Boletin no. 1. Montevideo, 1925.
Irish milch cow improvement association. Yearbook, 1925. Belfast, 1925.
Rhodesia, Southern. Minister of agriculture and lands. Report of veterinary conference held at Bulawayo, Nov. 4-6, 1924. Salisbury, 1924.

HORTICULTURE

Fox, Leigh Eden. Adam's garden. London, Longmans, Green, 1925.
Okinawa-ken, Japan. Agricultural experiment station. Bulletin no. 1, Dec. 1924. Selected plants in our garden, by U. Wada and T. Matsunaga. Ginowan Mura? 1924.
Thomas, H. H. 500 gardening hints. London, Cassell, 1925.

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International seed testing conference, 4th, Cambridge, Eng., 1924. Report. London, 1925.

CHEMISTRY AND CHEMICAL TECHNOLOGY

Cohen, J. B. Organic chemistry for advanced students. 4th ed. 3 v. London, E. Arnold, 1924.
Dumville, J., and Kershaw S. The carbonization process. Bradford, Eng. Wool record and textile world, 1925.
Jacobsen, Eduard. Handbuch für die Getränke-Industrie, Getränkefabriken und den Getränke-Grossbetrieb. Berlin, P. Parey, 1925.
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Pringsheim, Hans. Zuckerchemie. Leipzig, Akademische Verlagsgesellschaft, 1925.
Ramsay, A. R. J. A manual on explosives. London, G. Routledge, 1916.

MEDICINE

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Halleux, Désiré. Le livre de l'apiculteur belge. 4. ed. Huy, V. Pirnay, 1924.
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Lemaire, Paul. L'apiculture pratique. Paris, J.-B. Ballière, 1925.
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ZOOLOGY

Leroy, E. La culture du gibier à plume. 2. ed. Paris, Librairie de Paris, 1924.
Newman, H. H. The biology of twins (mammals). Chicago, Ill., University of Chicago press, 1917.
Society for the preservation of the fauna of the empire. Journal. n. s. pt. 1-4. Mar. 1921-July, 1924. London, 1921-1924.

BOTANY

Algeria. Direction de l'agriculture, du commerce et de l'industrie. Le jardin d'essai du Hamma à Alger. Alger, Impr. algérienne, 1922.
Boyce Thompson Institute for plant research, inc. Contributions. v. 1, no. 1. Organization, equipment, dedication. Yonkers, N. Y., 1925.
Boyce Thompson Institute for plant research, inc. Professional paper no. 1. Yonkers, N. Y., 1925.
Field museum of natural history. Chicago. Publications; Technique series, no. 1. Herbarium organization. By C. F. Millspaugh. Chicago, 1925.

Jávorka, Sándor. Magyar flora (Flora Hungarica). Budapest, A. "Studium" kiadása, 1924-25.

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Algeria. Direction de l'agriculture, du commerce et de l'industrie. Service de la statistique générale. Statistique agricole de l'Algérie 1901-1923. Alger, 1925.
Allied and associated powers (1914-) Supreme economic council. Economic conditions in Central Europe (1). London, 1920. (Gt. Brit. Foreign office. Miscellaneous. no. 1, 1920.)
Gt. Brit. Ministry of agriculture and fisheries. Economic series. no. 3. Economic resources of Canada in relation to Britain's food supplies. London, 1925.
Luxemburg (Grand duchy).—Kommission für statistik. Annuaire officiel. Année 16. Luxembourg, 1925.
Nelson, Lowry. A social survey of Escalante, Utah, Provo, Utah, 1925. (Brigham Young university. Studies no. 1.)

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Die Kranke pflanze; monatblatt der Sächsischen pflanzenschutzgesellschaft. Jahrg. 1, no. 1. Apr. 1924—Dresden.
Landbouw; tijdschrift der Vereniging van landbouwconsulenten in Nederlandsch-Indië (bi-monthly). jaarg. 1, no. 1—July 1925—Buitenzorg.
Merchandise warehouseman (monthly). v. 1, no. 1—May 1925—Chicago.

Traffic in T B Cattle Ends In Fine and Imprisonment

When an authorized veterinary inspector puts a T brand on the left jaw of a dairy cow it means that the cow is "tuberculous" and must be sent to the slaughter pen to prevent further spread of the disease to herds and humans. Not long ago 11 men in Cortland County, N. Y., viciously and intentionally misinterpreted the T brand to mean "tamper" or "traffic" and launched themselves into a wholesale bootlegging business in tuberculous cattle. They intercepted the condemned cows on their way to slaughter, substituted cheaper cows, and sold the better-looking diseased animals to unsuspecting or conniving dairy farmers at profitable prices after making an attempt at erasing the brands.

"This particular scheme of bootlegging, fortunately, has existed in only the one county in the United States," said Dr. J. A. Kiernan, chief of the tuberculosis eradication division of the department. "The first intimation of such illicit traffic and tampering came to our attention less than three months ago, and, thanks to the efficient action of the governor and the New York State Department of Farms and Markets, assisted by Federal officials, the practice has been cleaned up in short order."

On August 6 six of the eleven cattle dealers and farmers indicted by a special grand jury in the county, called by the governor, were sentenced to varying terms of from one to six months in the county jail and to pay heavy fines ranging from \$100 to \$1,500. Four escaped

jail sentences but were fined one and was granted a suspended sentence.

The finding of two cows in the spring branded with the telltale T brand, in the vicinity of Cortland, led the State Department of Farms and Markets to start an investigation to determine why these cows had not been slaughtered. Subsequently, another branded animal was found on another farm. Milk companies buying the products of the dairy farmers sent investigators to the district and the New York City Board of Health did likewise. As a result of these and other investigations conducted by the State and Federal authorities, 65 branded animals were found in various herds throughout the county. They were slaughtered under supervision and found tuberculous. Inquiry into the origin of these branded cattle soon put the investigators on the trail to a slaughterhouse which had been designated by the State as a place to send condemned animals.

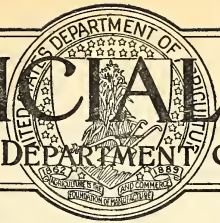
It was only through the cooperation and conspiracy of the unscrupulous owner of this plant that the cattle dealers were able to trade in cheaper scrub stock for the better-looking T-branded animals which the State and Federal Governments had ordered sent in and for which the farmers were to be paid indemnity. Tags were taken off the condemned animals and placed in the ears of the cheaper substituted animals which were then passed through for slaughter. The T brand proved a big stumbling block to the violators, however. They were able to cover up the brand with axle grease temporarily and so dispose of the condemned animal, but the brand could not be permanently erased, and subsequent discovery of crookedness was inevitable.

Buyers of these condemned cattle who were able to make a profitable deal and were unscrupulous in regard to harboring diseased cattle on their farms were an asset to the illicit dealers, but the victimized buyer or the honest purchaser, upon discovering the brand as it emerged from its cover of grease, complained to the authorities.

The energy with which the State agencies cooperated with the Federal division of tuberculosis eradication and the speedy meting out of penalty to these criminals is proof that the State of New York is determined to continue the "clean-up" of tuberculosis among its thousands of dairy cattle, said Doctor Kiernan. The people of this State have lost untold millions of dollars because of the high percentage of infection among the cattle in their State and they have recently been spending many thousands of dollars in freeing their herds from the plague.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON D. C., SEPTEMBER 9, 1925

No. 36

DEPARTMENT BUYS LANDS FOR WILD-LIFE REFUGE

Work Starts Under Biological Survey To Establish Upper Mississippi Refuge in Four States

With initial steps under way for the purchase of lands for the creation of the Upper Mississippi River Wild-Life and Fish Refuge the dreams of conservationists who fostered the movement will soon be realized. This refuge along the upper reaches of the Mississippi is designed as a feeding and resting place for wild fowl and other migratory birds, and as a natural home for fur animals, and in addition is established for the preservation of fishes, trees, wild flowers, and native plants.

Plants, Animals, Fish, and Birds

The new refuge is the child of the Izaak Walton League of America, which originated the idea and with great enthusiasm brought about the passage of the act which made the refuge possible. In this great public service the league has effected the conservation of an extensive section in one of the many areas needed for the perpetuation of the migratory game birds of the country and the many other forms of wild life, including valuable fishes, many of which have a very definite value in dollars and cents, in addition to their value from the recreational viewpoint, which can not be estimated.

The Secretary of Agriculture has been given the authority to purchase the lands for the new refuge, and administration is through the Bureau of Biological Survey, which maintains many of the other Federal wild-life refuge. Jurisdiction of the Department of Agriculture within the refuge will extend to wild birds, game animals, fur-bearing animals, trees, wild flowers, and plants, while the Department of Commerce will have jurisdiction with respect to fishes, mussels,

and other aquatic animal life. The two departments are authorized to make suitable regulations governing hunting and fishing on the areas acquired.

The bill passed by Congress authorizing the upper Mississippi Wild Life Refuge became a law on approval by the President on June 7, 1924, and authorized appropriations of not to exceed \$1,500,000 for the acquisition of overflowed lands on either side of the Mississippi in Illinois, Iowa, Wisconsin, and Minnesota, and for a distance of about 300 miles, from Rock Island, Ill., to Wabasha, Minn. The appropriation bill for the department for the year beginning July 1, 1925, carried \$400,000 for beginning the work.

Superintendent at Winona, Minn.

The superintendent of the new refuge is William T. Cox, of St. Paul, Minn., a member of the Izaak Walton League and for many years connected with the Forest Service, and one of the recognized forestry experts of the country. He has served as State Forester of Minnesota, and his wide acquaintance with people and conditions in the Upper Mississippi Valley region will be of much help to the department in the development of the refuge, particularly in rendering the area under his direction of value to the people of the region. Mr. Cox, as representative of the Biological Survey in the field, has established headquarters in the post-office building at Winona, Minn. He is actively engaged in locating available lands for purchase, in harmony with the desire of the department to be in position to carry out the purposes of the refuge with the greatest possible expedition.

Rudolph "Dieffenbach" has been appointed assistant to Mr. Cox, his special qualifications for the position being experience in purchasing lands for the Government and ability shown in the work. For more than 12 years he was connected with the Forest Service, during which period he devoted much time to the task of purchasing lands in the southern Appalachian region and in the

(Continued on page 8)

DOCTOR DENTON GOES TO G. W. UNIVERSITY

Has Had Wide Experience in Investi- gation and Teaching—Leaves Sept. 15

Dr. Minna C. Denton, of the Bureau of Home Economics has accepted the appointment as head of the home economics department at George Washington University, Washington, D. C. Doctor Denton will resign from her present position in the department September 15 and will begin her work at the university when it opens this month.

Doctor Denton has been connected with the home economics work of the department since 1918. As assistant chief of the former Office of Home Economics she organized the experimental kitchen and was in charge of that branch until it was merged into the division of foods and nutrition of the Bureau of Home Economics established July 1, 1923. Since that time Doctor Denton has continued her research on various problems connected with food preparation. Articles in scientific journals and bulletins in the regular series of department publications have from time to time given results of Doctor Denton's research.

Praised by Bureau Chief

Before coming to the department Doctor Denton was identified with home economics teaching and research at the University of Chicago, Ohio State University, Lewis Institute of Chicago, and Milwaukee-Downer College. During 1916-17 she held the Ellen H. Richards fellowship at the University of Chicago. For several years she was chairman of the committee on research of the foods and nutrition section of the American Home Economics Association.

"George Washington is exceedingly fortunate in securing Doctor Denton," said Doctor Stanley, chief of the bureau, in commenting on Doctor Denton's resignation. "Her training and experience

make her especially well prepared to develop a university home economics department. I am very glad of this opportunity to express appreciation of the contribution Doctor Denton has made to home economics. She was among the first to apply scientific methods to the study of the problems of food preparation and her work has done much to stimulate research in this line."

Commenting on her plans for the home economics department at George Washington, Doctor Denton said: It is my hope that at George Washington University we may ultimately be able to establish a department whose courses shall be representative of the best that modern home economics has to offer the college girl. We must, of course, go slowly at first, beginning with a few courses and gradually increasing their number and scope as our facilities increase."

The program Doctor Denton has outlined includes courses in food economics, in experimental cooking, or the science of food preparation, in introductory study of nutrition and dietetics, and in the recent scientific literature on nutrition.

Tropical American Birds Acclimatized in Georgia

Chachalacas, pheasant-like birds, introduced from tropical America, seem now to be thoroughly acclimatized and thriving on Sapelo Island, Ga., where they were placed two years ago cooperatively by the Biological Survey of the United States Department of Agriculture and Howard E. Coffin, of Detroit, Mich., who owns this island and is furnishing the funds for the experiment. A report from Mr. Coffin to the Chief of the Biological Survey indicates that these bird immigrants are happy in their new environment, though a bit clannish. In fact, barnyard fowls which incur the disfavor of the chachalaca learn to their sorrow that the new arrival, as Mr. Coffin suggests, appears to have the same motto as the Three Musketeers—"One for all, all for one." Mr. Coffin writes that in case of a quarrel among the feathered tribe about the yards, to which a chachalaca is a party, this bird seeks the shelter of neighboring woods, surrounds himself with a gang of his fellows, and returning with them to the scene proceeds to "mop up" most effectively, leaving his enemy a sadder but wiser bird.

These new members of the game-bird population of the Southeastern States are hearty, aggressive, and amply able to take care of themselves. Several dozen

of them have nested on Sapelo Island, this year once or twice, and they appear to have gone on their own accord to the neighboring Blackbeard Island, where some have been reported.

Chachalacas are near relatives of the pheasants. They are slender-bodied game birds, olive-brown in color, with excellent flesh for the table, and about equal in weight to a ruffed grouse. They spend a large part of their time in the trees, where they nest, but they also feed more or less on the ground. Their notes are loud and rattling and once heard will be long remembered. The call can be heard to a great distance.

The success of the experiment of transplanting chachalacas from Mexico is now assured, and the birds promise to become a valuable addition to the game-bird list of wooded sections adjacent to the Atlantic coast in the Southeastern States.

MANY STATES HAVE T. B.-FREE COUNTIES

During the period January 1 to June 30, 1925, 11 States either established their first county-wide area free of bovine tuberculosis or increased the number of such areas previously established. This noteworthy progress in a six months' period is shown in a report just issued by the Bureau of Animal Industry.

The States which established one or more areas, recognized by the department as free from the disease, were as follows: States establishing their first tuberculosis-free areas were California, Minnesota, Nebraska, Oregon, and Utah. States increasing the number already recognized as free were Indiana, Iowa, Kansas, Michigan, North Carolina, North Dakota, and Pennsylvania.

During the six months' period North Carolina made the greatest progress of any State with respect to modified accredited areas, increasing the number so designated from 26 to 37. Records of the Bureau of Animal Industry, however, show that a great many States have completed preliminary tests in many counties, with the view of having them admitted to the tuberculosis-free list as soon as infection has been reduced to within the permitted maximum of one-half of 1 per cent.

A. P. Dodd, E. Mortensen, and H. Barnette, of the American Division of the Australian Commonwealth Prickly Pear Board, were recent visitors at the dried fruit insect laboratory of the Bureau of Entomology at Fresno, Calif.

Higher Prices and Lower Yields Stimulate Agricultural Expansion

Danger of too rapid expansion of crop and livestock production because of higher prices this year is pointed out by the department in its September report on the agricultural situation.

"In so far as present price levels mean income for this season's products, they represent a real bird in the hand," the department says. "In so far as they merely serve to beckon producers into a still larger acreage of wheat, cotton, corn, potatoes, more hogs, cattle, and sheep for 1926, they represent a dubious substitution of promise for fulfillment."

Higher prices, the department points out, have been due to poor yields rather than to increased consumptive demand. The spring wheat forecast, for example, is around 260,000,000 bushels against 283,000,000 bushels a year ago, despite the fact that acreage was increased 19 per cent over last year.

"The domestic wheat situation is a rather tight one," the department says. "There appears to be little wheat to spare for export east of the Rocky Mountains. The country price of wheat has been running around 30 cents above last year and is evidently high enough to stimulate production.

"Barring an early frost, corn will apparently turn out around 3,000,000,000 bushels, which is a fair, average crop. It was hurt by dry weather in portions of the Corn Belt as well as in the Southwest, and the general yield per acre appears likely to be slightly below average. The corn situation is well balanced. There is grain enough to feed, yet the price is remunerative to producers. Corn, like wheat, now has a purchasing power per bushel somewhat higher than in pre-war times.

"Back of the feed grain markets looms a slowly growing strength in the livestock situation. That there will be an increasing demand this fall for feeder stock of all classes is the opinion of well-informed men; current shipments of stock toward the feed lots appear to foreshadow such development. The livestock industry in general is heading slowly back toward a program of heavier production."

The improvement in the financial position of farmers is shown by the department's price index which places the purchasing power of 30 farm products combined, in terms of nonagricultural commodities, at 91 compared with a five-year pre-war level of 100.

Lincoln Ellsworth, American member of the Amundsen Polar Expedition, visited the Biological Survey on August 26.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

MAY EXTEND SATIN MOTH QUARANTINE

The advisability of extending Quarantine 53 account of the satin moth, which at present applies only to the States of New Hampshire and Massachusetts, to include Maine, Rhode Island, and Washington, for the purpose of checking the further spread of this injurious insect pest, will be considered at a public hearing to be held at Washington, D. C., by the Federal Horticultural Board September 28.

CHANGE SEASONS ON GAME BIRDS

Under recent changes in the migratory-bird treaty-act regulations and State laws, the open seasons in Idaho and Oregon on waterfowl (except wood duck and swans), coot, gallinules, and Wilson snipe or jacksnipe, black-bellied and golden plovers, and greater and lesser yellowlegs now extend from October 1 to January 15, inclusive, according to an announcement of the Biological Survey to sportsmen of these two States. Such birds legally killed may be possessed only during the open season and the first 10 days of the close season, but provisions of State laws in regard to tagging, furnishing affidavits, and procuring storage permits must be observed.

EUROPEAN SUGAR-BEET CROP GAINS

Sugar-beet production in Poland is forecast at 3,811,800 short tons, an increase of 7.7 per cent over last year's production of 3,539,000 tons, according to the August official report cabled to the department by the International Institute of Agriculture at Rome. The area to be harvested in 1925 is placed at 423,000 acres compared with the June estimate of 426,900 acres and an acreage last year of 403,796 acres.

ADOPT STANDARD FOR SAUERKRAUT

A definition and standard for sauerkraut has been adopted by the Secretary of Agriculture as a guide for the officials of the department in the enforcement of the Federal food and drugs act, upon the recommendation of the joint committee on definitions and standards, as follows: "Sauerkraut is the clean, sound product, of characteristic acid flavor, obtained by the full fermentation, chiefly

lactic, of properly prepared and shredded cabbage in the presence of not less than 2 per cent nor more than 3 per cent of salt. It contains, upon completion of the fermentation, not less than 1½ per cent of acid, expressed as lactic acid. Sauerkraut which has been rebrined in the process of canning or repacking contains not less than 1 per cent of acid, expressed as lactic acid."

BETTER CROPS IN HUNGARY

Corn production in Hungary for this year is forecast at 94,916,000 bushels, against 80,088,000 bushels produced in 1924, and 49,247,000 bushels from the 1923 harvest, according to a cablegram received by the department from the International Institute of Agriculture at Rome. Hungary is one of the largest surplus corn producers of Europe.

NORTH CAROLINA VISITORS

Fifty North Carolina farmers, principally from Rowan County, who were touring agricultural districts of Virginia, Maryland, and West Virginia, were welcomed by Assistant Secretary Dunlap at the department August 31. They also visited Beltsville farm on the same day and spent September 1 on the Arlington farm attending the meeting of the National Soybean Growers' Association there. Mount Vernon farm was visited on the trip from Richmond to Washington, and stops were made at experiment stations in each State visited. The tourists were in Washington from August 31 to September 2, with camp headquarters at Arlington farm. W. G. Yeager, county agent for Rowan County, was in charge of the tour, assisted by O. H. Phillips, county agent for Stanley County, N. C.

Miss Rowena Chisholm, of Melbourne, Australia, was a recent visitor in the Bureau of Home Economics. Miss Chisholm has been teaching home economics in her own country for a number of years and was last summer appointed as the new head of the home economics department in the women's technical college of Melbourne and given the opportunity to study in Canada and the United States for two years while a new building is being erected. Miss Chisholm is enrolled as a student for the master's degree at the University of Toronto. She studied in the household arts department of Teachers College, Columbia University, during the summer session just ended. Miss Chisholm plans to visit several American universities and colleges for women during the coming year and to visit English schools on her way back to Australia next summer.

NEW IDEAS AND DISCOVERIES

Grader for Determining Standard Color Grades in Samples of Extracted Honey

The bee-culture laboratory of the Bureau of Entomology announces that in cooperation with the Bureau of Agricultural Economics the work on standard color grades for extracted honey has been completed.

A type of grader has been perfected which quickly and accurately determines the color grade of any sample of honey. The active principle of this grader consists of a wedge-shaped vessel for containing the sample of honey to be graded; this, in turn, being compared with an inversely placed wedge of amber glass. The two wedges are viewed simultaneously through a slit which permits light to pass through from the rear. When the color of the honey and that of the glass wedge match the color grade of the honey is indicated on an appropriate scale calibrated with the standard commercial grades of extracted honey. These grades will be recommended as standard for the United States by the Bureau of Agricultural Economics.

Dr. A. H. Pfund, of Johns Hopkins University, has been chiefly responsible in devising the grader. The principle upon which it is founded has been patented by him.

The Bureau of Agricultural Economics will probably have these graders in their offices located in the principal honey-producing localities of the United States.

The bee-culture laboratory will determine the color grade of any sample of honey free of charge. A 4-ounce sample of clean, well-strained honey in proper mailing tube will be sufficient for examination.

JAS. I. HAMBLETON.
BUREAU OF ENTOMOLOGY,
Washington, D. C.

W. N. Keenan, of Ottawa, an entomologist of the Canadian Department of Agriculture, and Charles Ross, of Ottawa, of the Canadian Department of Trade and Commerce, spent several days during part of July at the gipsy moth laboratory of the Bureau of Entomology at Melrose and different parts of Massachusetts in preparing a motion picture of the gipsy moth.

Recent surveys by the Bureau of Entomology indicate that the Hessian fly is less prevalent than last year in Ohio and Iowa, while on the other hand the poor wheat crop of Kansas is largely attributed to this pest, one county alone estimating the loss at 1,250,000 bushels.



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OFFICIAL U. S. HAY STANDARDS

The Secretary of Agriculture has promulgated an order making the standards for timothy, clover, and grass hay; alfalfa and alfalfa mixed hay; Johnson and Johnson mixed hay; prairie hay; and mixed hay, which were recommended by the Bureau of Agricultural Economics on July 1, the official standards of the United States for the inspection of hay, effective September 1, 1925. Mimeographed copies of the standards may be obtained from the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C., or from any licensed Federal hay inspector.

It is also planned to issue a hay standards handbook, which will contain the standards, a description of certain important features of them, and of important features of the Federal Hay Inspection Service. This handbook will probably be ready for distribution in the next month or two.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the Office of Personnel and Business Administration, the following employees of the department were retired recently:

Mr. Michael J. Madden, a senior hay inspector in the Bureau of Animal Industry, at Kansas City, Kans., was retired on account of age on July 2, 1925. He was born on July 3, 1855, and was 70 years of age at date of retirement. He had served continuously in this department since October 1, 1893, a period of 31 years, 9 months, and 2 days.

Miss Mary M. Childs, a junior clerk in the Forest Service, at Washington, D. C., was retired on account of total disability, effective May 13, 1925. She had served continuously in the Forest Service since October 1, 1904, a period of 20 years, 8 months, and 12 days. She en-

tered the service as a stenographer and typist and served in such capacity until November 30, 1908, when she was given permanent appointment as a land-law clerk, in which capacity she rendered service in the central office of the Forest Service and with the district forester at Ogden, Utah. For many years she was responsible for the handling of questions involving agricultural settlements with the national forests.

TENTATIVE STANDARDS FOR BEANS

Tentative standards for beans have been issued by the Bureau of Agricultural Economics following a series of public hearings held in leading bean-producing sections of the country. The standards include 19 different classes of beans, and are proposed for adoption and use by State and commercial agencies to demonstrate their practicability under commercial conditions before official standards are established.

Over 1,600 samples of beans were analyzed by the bureau to determine the range and limits of various quality factors in making up the grades. The tentative standards are made up of seven sets of grades for as many classes or groups of classes, the specifications giving proper weight to local production and marketing problems, as well as to consumer requirements.

BANK NOTES DAIRY PROSPERITY

A bank is often an excellent source of information concerning the history and present status of agricultural conditions in its locality. The following letter from the cashier of the First National Bank of Grace, Idaho, to T. E. Dorman, in charge of western dairy introduction, indicates the recent improvement which has taken place there in dairying conditions:

"Knowing that you are somewhat interested in dairying, will make the following reports as to the condition which has been and is now in this valley.

"During 1918 this bank cashed only a few cream and milk checks during each month, and nearly all farmers had to borrow money each month for farming expenses and living expenses.

"The farm bureau, together with the extension division, sent their men out through the valley. Mr. Thometz, Leonard, and Mathiesen met with officers of this bank and explained the benefits which might be obtained should we work in connection with them, and we agreed to do so. First, the pig club was started, and in 1924, 78 carloads of hogs were

shipped out of this valley, besides the number which was kept over and killed for home consumption.

"Dairying has gone by leaps for us, and to-day 80 per cent of our farmers borrow only for farm work; the cows are paying all living expenses and in several cases are paying the interest on farm mortgages.

"The bull association has, in my estimation, been a very great success; it has built up our herds to a much higher standard, and I predict that in the very near future this will be one of the greatest dairy sections in Idaho; and with the continued help from the farm bureau and the farm-extension department there is no limit to what can be done; and this bank stands ready to do all we can to assist in this great work."

Mr. Dorman, commenting upon the letter, writes:

"This letter is very encouraging, since it came to us entirely unsolicited. Bannock County, in which Grace is located, has four bull associations, owning 20 bulls, that are being used in 128 herds, totaling 966 cows."

MAKE SPINNING TESTS OF YARNS

Spinning tests to determine the relative values of yarns made from the nine white grades of the universal cotton standards and the relative value of the unspinnable cotton or waste found in the different grades are being made at the Clemson Agricultural College by the Bureau of Agricultural Economics of the department.

From the tests under way it is expected to determine to what degree the standards are a true index of the spinning value in cotton. The question will be treated from the standpoint of percentage of waste, strength and evenness of yarn, bleaching and finishing properties, adaptability to mercerizing, and efficiency in the operation of textile machinery. A manuscript is being prepared in which the results of the tests will be given.

Nicolaus Kanarsky, professor of textile technology at the Textile Institute of Moscow, Russia, and director of the standardization committee of Russia, called at the Bureau of Agricultural Economics recently to confer with officials and to study the United States standards for wool, which are to be used as a basis for Russian standards. Professor Kanarsky stated that a commission has recently been appointed by the Russian Government to come to this country to buy fine woolled sheep. Russia, he says, is very much interested in increasing wool production and developing the textile industry.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is "county agent" the correct designation for the person in charge of farming extension work in a county? How did the term originate and is it applied also to the person in charge of home extension work?

Answer. The term, "county agent," has through extended use become accepted in most States as the title of the person in charge of agricultural work in a county. It originated, probably, from the designation, "field agent," referring to employees working outside of headquarters. In a number of States the term, "farm demonstration agent," is used locally; one State uses "farm adviser," and another "farm advisor." Canada's agents are known as "agricultural representatives." The term, "home agent," is being adopted by some States instead of "home demonstration agent," the designation generally used for the person in charge of county home economics extension work.

Question. Some reference books state that an inch of rainfall is equivalent to 101 tons of water per acre, while others state that it is equivalent to 113 tons. Which is correct?

Answer. Both. The first of these two values has reference to the "long ton" of 2,240 pounds, and the second to the "short ton" of 2,000 pounds. The long ton is the common ton of Great Britain and is used for some purposes in the United States, where, however, the short ton is more usual.

Question. What is the lowest temperature ever measured in the atmosphere?

Answer. The "record" for low atmospheric temperature appears to be held by the reading of 133 degrees below zero Fahrenheit, obtained with a registering thermometer attached to a sounding balloon sent up from Batavia, Java, in November, 1913. The exact height at which this reading was recorded is uncertain. The lowest temperature ever recorded at a meteorological station on the earth's surface was 90 degrees below zero Fahrenheit, recorded at Verkhoyansk, Siberia, February 5 and 7, 1892.

Question. Do certain foods "stir up" the liver?

Answer. It is commonly believed that many ills are due to a sluggish liver and that these ills can be overcome by eating spinach, onions, rhubarb, and other foods said to be especially good for

the liver. The apparent beneficial effect of these foods is probably due to the fact that they are mildly laxative, and nutrition specialists now believe that the ills ascribed to a disordered liver are really due to intestinal disturbances. Most of these ills would be avoided if the diet were well chosen and if various health habits were established which would do away with constipation. The Department of Agriculture has published much information on the rational diet and how to choose it. Such facts can be found, for example, in Farmers' Bulletin 1313 entitled "Good Proportions in the Diet."

Question. What is the world's record cow for butterfat production? What is it for milk production?

Answer. The world's record for butterfat production is held by a Shorthorn cow, Melba 15th, of Darbalara, in New South Wales, Australia. Her record is reported to be 1,614 pounds butterfat in one year. The highest butterfat production in North America was made by De Kol Plus Segis Dixie, a Holstein-Friesian cow in Canada, that produced 1,380.4 pounds butterfat in one year. The record for milk production is held by a Holstein-Friesian cow in the United States, Segis Pietertje Prospect, with 37,381.4 pounds of milk in one year.

Road Over Salt Desert Shown in New Movie

The story of the building of a modern highway across the Great Salt Desert in western Utah, an epic in American road construction history, is pictured in vivid detail in the new department educational film, "Crossing the Great Salt Desert."

The Great Salt Desert is a remnant from the geological period which ended with the drainage of prehistoric Lake Bonneville, and its brine-saturated mud flats—too soft to support vehicles—once the despair of early overland travelers, many of whom perished on its wastes. Ten years ago an attempt was made to span this desolate area, but the road built was so narrow that many vehicles in passing were forced off into the soft mud. A night on the desert with attending hardships sometimes followed. The salt brine which covered this road during rainy seasons was injurious to automobiles and caused much damage.

In locating the new Federal-aid highway between Salt Lake City and Sacramento, an important link in the transcontinental highway system, the route of the "forty-niner" across the Salt Desert was chosen and work was begun

to build an up-to-date road from Knolls to Wendover, Utah, a 40-mile stretch. Numerous types of trenching machinery were employed. The brine-soaked mud was thrown up in windrows, dried, and worked over to make a base for the road. The character of the mud made the use of horses impracticable on many sections, and special machinery was devised to do the work.

One of the unusual features of the road is the crossing of an "island" of solid salt 6 miles wide. Here the salt crystals average a depth of 3½ feet. In order to obtain clay for the road base salt-digging machinery was employed. Trenches were cut through the salt, and the clay brought up from beneath and carried by special made conveyors to the right of way.

PRELIMINARY FUR DATA PUBLISHED

The preliminary study of statistical data on fur resources and the fur trade, begun last January by the Bureau of Biological Survey cooperating with the National Association of the Fur Industry, has been completed and the results will be published shortly by the association. The report represents the opening phases of an important and interesting study.

The work demonstrates with such statistics as are on hand the present status of the fur resources and the fur trade. It also indicates to conservationists and to those engaged in the fur trade the value of a program for the collection of facts relating to the industry.

There are no figures available on many phases of the fur trade. Therefore until data regarding the fur supply and the fur industry are gathered over a period of time it will be difficult to resort to the accurate analysis which may serve as an aid to legislation in the enactment of fur laws and to furriers in the conduct of their business. This statistical study will be continued with a view to supplying the apparent need, so that a practical plan for fur conservation may be evolved and furriers may learn to forecast more accurately the trend of their business.

Prof. H. E. Woodworth, formerly of the College of Agriculture, Los Baños, Philippine Islands, and H. T. Osborn, of the United Sugar Co. of Mexico, formerly of the Hawaiian Sugar Planters Association, Honolulu, called at the Japanese beetle laboratory of the Bureau of Entomology at Riverton, N. J., recently, to observe the work that is being done on beneficial parasitic insects.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

SUGARCANE AND RICE INSECTS

This year the sugarcane beetle was found injuring rice, and the rice water weevil was found feeding on the leaves of sugarcane. As the two crops have much in common, the studies on their insect pests by the Bureau of Entomology are closely associated.

The laboratory for the study of sugarcane insects is at New Orleans, and in the midst of rice culture at Crowley, La., the rice insect investigations are centered. This year observations on rice insects are being made not only in Louisiana but also in Arkansas and California.

The principal pest of sugarcane is the sugarcane moth borer, a larva or "worm" which bores through the stalks of sugarcane, causing great injury. Incidentally, it does more damage to rice than does a rice insect, the rice stalk borer.

The control of the sugarcane moth borer, or "cane borer," is a difficult problem. Some headway has been made by the introduction of a tachinid fly parasite from Cuba. In cooperation with the Bureau of Plant Industry, a method of treating "seed" cane with heated water has been worked out. This destroys borers and all other insects. Later, a treatment with water of ordinary temperature was discovered. By soaking the "seed" cane in water for 72 hours all borers are killed. This means a great deal, as it is in the planted "seed" cane that the borer finds one of its favorite places of passing the winter. In the spring it changes to the moth stage, works its way through the soil, and begins depositing eggs on the young plants.

Through cooperation with the Bureau of Agricultural Economics the loss due to the sugarcane moth borer is estimated annually. The average loss is found to be 19 per cent of the crop. In 1924 the loss was 13 per cent, whereas in 1923 the loss was 23 per cent. This means a yearly loss in money for Louisiana alone of something like \$5,000,000, without including the serious injury to corn.

The principal insect injurious to rice is the rice stinkbug, a straw-colored bug which sucks the juice from the grains. This may be controlled by preventing the growth of grass around the rice fields, as the grass affords the bug food and hibernating quarters.

Soybeans are being advocated as a rotation for rice, but as they have been so seriously attacked by a blister beetle the farmers have hesitated to plant them. The specialist on rice insects has just found a control for the blister beetle which so far has given excellent results.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arizona.—Bertha Virmond has been appointed home demonstration agent for Santa Cruz County, effective September 1.

Arkansas.—Em S. Patty has resigned as specialist in clothing and textiles to accept a commercial position. F. D. Crooks, poultry specialist, has resigned to enter commercial poultry work.

Delaware.—Hoke S. Palmer has been appointed poultry specialist under the provisions of a special State appropriation, effective July 1, 1925. H. L. Dozier, who has been appointed entomologist at the experiment station, will devote some time to extension work in insect control.

A. E. Anderson became director of the South Dakota agricultural extension service September 1. Mr. Anderson was born on a farm in northern Nebraska, graduated from the University of Nebraska College of Agriculture and later made a trip to Europe to study agricultural practices there. Following graduation, he was engaged in extension work in Nebraska and Ohio. Last year he spent at Cornell University, New York, studying economics.

FORTHCOMING EVENTS

A boys' and girls' club congress will be held in connection with the Arkansas State Fair at Little Rock October 12 to 17. Arrangements have been completed for the building of a special 4-H club building on the fair grounds. This building will contain dormitories for both boys and girls, a dining hall, an assembly room, and office quarters.

IMPORTANT DEVELOPMENTS

Wool-grading demonstrations were held this season in Humboldt, Washoe, Lyon, and Elko Counties, Nevada. Several bags of wool were graded at each meeting by J. J. Durham, a United States licensed wool grader in charge of the Pacific Cooperative Warehouse at San Francisco, assisted by county agents J. W. Wilson, T. E. Buckman, E. C. Reed, and C. A. Brennen.

Sheep and wool grading demonstrations were conducted in San Pete County, Utah, this year by Alma Esplin, sheep and wool specialist, and the county agent, C. O. Scott. They visited several corrals, weighing many hundred fleeces, getting the average weight and noting the variations. The fleeces ran from 6 to 15 pounds. In one flock a check was made on the fleece weights after shearing and the culled sheep were ear tagged. Out of a flock of 350 head, 32 were culled. In this case the culled fleeces were not only under average weight but also inferior in other respects. In another instance a most interesting demonstration was started. In a 4,000-head herd, 1,000 of the best ewes were selected. These were shorn separately, were given a different brand, and will be run apart from the main herd on the reserve. They will be mated with superior bucks and a close check made on the wool production of the resulting lamb crop. This demonstration may continue over several years.

SOUTHERN NEGRO CLUB MEMBERS TO MEET

The first annual Southern negro boys and girls' club conference will be held at Tuskegee Institute, Alabama, December 8-10, 1925. Each Southern State may send representatives, which are to be selected by members of the State agricultural extension services having charge of club work. Features of the meeting will be contests in livestock, poultry, seed-corn and sweet-potato judging and bread making, dress making, and health contests, in which teams selected by the States represented will compete. There will also be a plowing contest, a milking contest, and an oratorical contest on the subject, "The resources of my State," in which one club member from a State may be entered. Opportunity for athletic sports will be provided. A negro man and woman agent will accompany the club members from each State. Tuskegee Normal and Industrial Institute will furnish quarters and meals for both club members and agents.

Ten young caribou bulls were recently transported from Kokrines, Alaska, down the Yukon River to Nunivak Island in the Bering Sea, under the supervision of the Biological Survey, as the beginning of an experiment planned by the Biological Survey for improving the strain of reindeer by cross-breeding with caribou.

Reports of unusual abundance of cutworms continued during July to be received by the Bureau of Entomology from practically the entire country, extending from Maine to Florida and westward to Oregon.

BRIEF REVIEWS OF NEW BULLETINS

Effect of Age and Development on Butterfat Production of Register-of-Merit Jersey and Advanced-Register Guernsey Cattle. By R. R. Graves, specialist in dairy cattle breeding, and M. H. Fohrman, dairy husbandman, Bureau of Dairying. Pp. 24, fig. 1. August, 1925. (Department Bulletin 1352.) Price, 5 cents.

This bulletin contains the results of careful studies made to ascertain the actual relationships of the production records of cows at different ages. A large number of official records were classified according to age, and it was found that the increase for every six months is much larger, in the earlier six-month periods than it is as the cows approach maturity. Since the official testing requirements used by the breed associations assume equal increments for all the six-month periods, it appears that heifers are considerably favored by the existing requirements, while cows of more than 3 years are expected to increase faster than they actually do. A further interesting fact in this connection is the noticeable improvement in production records made since the beginning of 1920, especially in the last 1,000 records. The rise is gradual and seems to indicate that with the increase in experience gained by handling test cows the breeders have developed better methods of feeding, conditioning, and caring for animals on test. The effect of years of selective breeding for high production is also a force operating to raise these averages.

Fitting, Showing, and Judging Hogs. By E. Z. Russell, animal husbandman, Bureau of Animal Industry. Pp. 22, figs. 13. July, 1925. (Farmers' Bulletin 1455.)

This bulletin has been prepared in order that the inexperienced swine growers and breeders may have some advance information before attending fairs. The fact is well recognized that best results are obtained in swine production when the best animals are used for breeding purposes. Fairs and expositions are recognized as places where one may obtain up-to-date information on the characteristics of the best animals. Breeders follow the practice of showing their animals at livestock shows for the purpose of advertising and selling their surplus. Naturally, the right individuals should be selected for show purposes, and they should be properly fitted.

Packing Apples in Boxes. By R. R. Pallthorpe and F. S. Kinsey, Marketing Specialists, Bureau of Agricultural Economics. (Farmers' Bulletin 1457.)

This bulletin is a manual for those who are interested in learning how to pack apples in boxes. Particular attention is given to a discussion of the details of wrapping and packing an apple, as well as the equipment and supplies used in packing boxed apples.

ADDITIONAL PUBLICATIONS

Estimating the Quality of Grain in Bins with Chart Reducing the Necessary Computations. By E. N. Bates, Investigator in Grain Handling, Grain Division, Bureau of Agricultural Economics. Pp. 8, chart 1. August, 1925. (Miscellaneous Circular 41.) Price, 5 cents.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 93. Rules and Regulations of the Secretary of Agriculture Governing the Inspection and Certification of Fruits, Vegetables, and Other Products. Pp. 8. August, 1925. Price, 5 cents.

Federal Horticultural Board. No. 83. April-June, 1925. Pp. 29-62. August, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of August 24-29, 1925. Copies of these publications may be obtained from the stations issuing them.

Botulism poisoning. W. G. Saskett. (Colorado Sta. Press Bul. 61, pp. 4. Jan., 1925.)

The Quarterly Bulletin. (Michigan Sta. Quart. Bul., vol. 8, No. 1, pp. 54, figs. 14. Aug., 1925.)

Tomato seed selection. C. C. Starring. (Montana Sta. Bul. 173, pp. 17. Feb., 1925.)

Soils of Daniels County. Soil reconnaissance of Montana, preliminary report. L. F. Gieseker. (Montana Sta. Bul. 174, pp. 32, pls. 4. Feb., 1925.)

Farming business in the Gallatin Valley.—A study of factors affecting the profits of irrigated farms from 1918 to 1922, with comparable data for 1913. H. E. Selby. (Montana Sta. Bul. 175, pp. 30, figs. 11. Feb., 1925.)

Winter feeding beef calves. C. N. Arnett, R. C. McChord, and J. O. Tretsven. (Montana Sta. Bul. 176, pp. 29. Feb., 1925.)

Furrow drill for sowing winter wheat in central Montana. R. W. May and C. McKeown. (Montana Sta. Bul. 177, pp. 24, figs. 16. May, 1925.)

Poultry houses. G. P. Goodearl. (Montana Sta. Circ. 129, pp. 8, figs. 6. May, 1925.)

The work of the Montana Agricultural Experiment Station. Thirty-first annual report July 1, 1923, to June 30, 1924. F. B. Linfield et al., pp. 72, figs. 24.

Energy-production coefficients of American feeding stuffs. G. S. Fraps. (Texas Sta. Bul. 329, pp. 62. Mar., 1925.)

Articles by Department Workers in Current Publications

Ashbrook, Frank G. (Biological Survey). What's what in furs. *The Farm Journal*, vol. 49, no. 9, pp. 31, 44, September, 1925.

Burch, D. S. (Animal Industry). "Corn and Hog Relationship." In *Breeder's Gazette*, vol. 23, pp. 12-15, September, 1925.

Collier, G. A., and Irwin, H. S. (Agric. Economics). The World Wheat Reserves. *Jour. of Commerce*, Aug. 25, 1925.

Couch, Leo K. (Biological Survey). Storing habits of *Microtus townsendii*. *Journal of Mammalogy*, vol. 6, no. 3, pp. 200-201, August, 1925.

George, Frank (Agric. Economics). The Gamble in Export Fruits. *American Fruit Grower*, Sept., 1925.

Jaus, E. W. (Public Roads). Reducing Cost of New Motor Roads by Wider use of Local Materials. *Florida Highways*, vol. 2, pp. 3, 6-7, July, 1925.

Longley, A. E. (Plant Industry). Polycary, polyspory, and polyploidy in citrus and citrus relatives. *Journal Washington Academy Sciences*, vol. 15, pp. 347-351. Illus. Aug. 19, 1925.

Mcatee, W. L. (Biological Survey). The golf course beautiful. *Bulletin of the Green Section of the U. S. Golf Association*, vol. 5, no. 8, pp. 178-179, August 15, 1925.

United States Biological Survey. Work of the United States Biological Survey in relation to the citizens of New York State. *Cornell Rural School Leaflet*, vol. 19, no. 1, pp. 80-84. September, 1925.

McKay, J. G. (Public Roads). Motor Truck Transportation of Commodities. *Indiana Highways and Motors*, vol. 5, pp. 13-20, July, 1925.

Monteith, John, Jr. (Plant Industry). July experiments for control of brownpatch on Arlington experimental turf garden. *Bulletin Green Section U. S. Golf Association*, vol. 5, pp. 173-176. Illus. Aug. 15, 1925.

Stanley, Louise (Home Economics). Woman's biggest job? What the Bureau of Home Economics is doing to help her. *Modern Priscilla*, vol. 39, no. 6, August, 1925.

Taylor, Walter P. (Biological Survey). The breeding and wintering of the pallid horned lark in Washington State. *The Auk*, vol. 42, no. 3, pp. 349-353, July, 1925.

(Biological Survey). Old-squaw duck, western gull, and glaucous gull in Washington. *The Murrelet*, vol. 6, no. 2, p. 32, May, 1925.

TO STUDY EXTENSION RESULTS

Wisconsin, Georgia, Alabama, and Arkansas extension services have practically completed arrangements for co-operative field study of extension results to be made with the Office of Co-operative Extension Work in one or more counties of each of these States during the present season.

The study planned for Wisconsin will relate especially to the alfalfa project in addition to the general effectiveness of all extension effort in reaching farming people. Farm and home records will be obtained in three areas in the State, one of which will be in a county not employing a county agent. W. W. Clark, assistant county agent leader of Wisconsin, is representing the Wisconsin extension service in planning and conducting this study, which will be made September 28 to October 10.

In Alabama two areas will be studied during the period of August 31 to September 5, and special attention will be given to negro extension work.

Work in Georgia has been scheduled for September 7-19. It is planned to obtain about 300 farm and home records in each of four counties located in widely separated sections of the State. J. K. Giles, assistant director of Georgia extension service, will have charge of the study for that service.

In Arkansas two counties will be studied, one in the eastern or river-bottom section and the other in the western or hilly portion of the State, November 2-14. Information regarding extension work with both white and negro farmers and home makers will be obtained.

These studies will be conducted under the direction of M. C. Wilson, in charge division reports and efficiency studies, Office of Co-operative Extension Work, aided by J. M. Stedman and Iva M. Sinn, of that office. I. W. Hill, field agent for the southern division, will assist in the Alabama and Georgia studies. J. B. Pierce and T. M. Campbell, field agents in negro extension work, will participate in the work in Alabama and Arkansas.

Studies of the effectiveness of extension work in reaching rural people have already been made in six States—Iowa, New York, California, Colorado, Massachusetts, and New Jersey.

Prof. H. A. Ballou, of the West India Agricultural College, Trinidad, West Indies, was a recent visitor at the gipsy moth laboratory of the Bureau of Entomology at Melrose, Mass.

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DEPARTMENT BUYS LAND FOR WILD-LIFE REFUGE

(Continued from page 1)

White Mountains of New England for the national forests of the Eastern States. Mr. Diefenbach's experience will be of great help to the Biological Survey in the task it has before it of locating and purchasing approximately 300,000 acres of land which will comprise the new wild-life refuge.

The bureau has temporarily detailed E. C. Hotchkiss from its Washington office to Winona, Minn., where he is assisting in establishing the business office there. Mr. Hotchkiss is a lawyer, and his service in the Biological Survey and familiarity with department procedure will be a distinct aid in inaugurating the business of the new project.

Bureau Seeks Cooperation of People

The Biological Survey is working to obtain the cooperation of people in the upper Mississippi Valley in the development and enjoyment of this great wild-life refuge. When the lands are obtained and the refuge thoroughly organized it will be one of the greatest establishments of the kind in the possession of the National Government. Here wild animals, birds, and fishes, under careful conservation, will have opportunity to increase their numbers, while the public will be given the enjoyment of the sports of hunting and fishing to the fullest extent consistent with maintaining the wild-life supply in maximum abundance.

The areas to be purchased for the refuge are specifically limited to the bottom lands between the river and the bluffs which rise rather precipitously on either side from 200 to 400 feet. The average price of the lands can not under the law exceed \$5 per acre. In this region the Mississippi flows through a valley averaging 3 to 5 miles in width to the very foot of the bluffs. At times of high water a large part of this area is overflowed and not suitable for agriculture. There are permanent sloughs and bayous, some of them navigable to boats to light draft. Many of them are dry in summer, but the land exposed is not suitable for cultivation. To save the fishes in these cut-off bodies of water, the Bureau of Fisheries sends agents each year to return them to the Mississippi or carry them to other localities for restocking depleted streams. In this way millions are rescued every year by Federal and State agencies in one of the greatest spawning grounds in the United States for such species as bass, pike, sunfish, and others.

The pearl-button industry, with an enormous annual output, finds an important part of its raw material in the mussel shells obtained in the waters of this region. It is noteworthy that the spawn of certain shellfish can be disseminated only in the gills of certain fishes, so that the mussel-shell industry in this region depends for its existence upon the conservation of the fishes frequenting these waters. The industry will not only be unhampered by the creation of this reservation, but by its establishment will be assured of perpetuity.

The Mississippi Valley is described as the great American highway for our migratory birds, and many of their feeding and resting places are found in the very midst of the new refuge. Quail and ducks have in the past bred here, and during migration the refuge is an ideal place for many species of warblers. The principal fur animals indigenous to these lands are muskrats, mink, raccoons, foxes, and skunks, and in the southern part some few opossums, and these animals will be of no small economic importance in the legitimate uses of the refuge.

Verne Rhoades, supervisor of the Pisgah National Forest, has resigned, effective September 18, to enter business. He will be succeeded by M. A. Mattoon, supervisor of the Cherokee, who formerly served on the Pisgah for five years. As Mr. Mattoon is thoroughly familiar with the Pisgah, its men and its problems, he is thoroughly qualified to take up the work there.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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MARLATT VISITS FRANCE AND SPAIN

Conferences and Inspection Tours In Fruit Districts Clarify Quarantine Impressions

Dr. C. L. Marlatt, chairman of the Federal Horticultural Board, returned to Washington September 3 from Europe, where he had spent two months at the request of the Department of State in studying conditions relative to the production of certain plants and plant products which are denied entrance to this country because of the danger of introducing new and dangerous pests. Doctor Marlatt spent most of his time in France and Spain. He feels that the trip was well worth while, and, in regard to France and Spain, very successful in the establishment of contacts, the making of many friends among the officials and growers, and particularly in clearing away the widespread impression which formerly existed that the quarantine action of the Department of Agriculture was based on trade or commercial considerations.

The subjects of special interest to Doctor Marlatt, on his tour of inspection, were for France, the fruit-stock nurseries of the Orleans and Angers districts, and the cultures of narcissus bulbs in the Toulon region of south France, and in Spain the Almeria grape, which, on account of infestation with the Mediterranean fruit fly—perhaps the most dangerous of all fruit pests—has been barred entry into the United States. Because of its bearing on any reconsideration of commercial treaties with Spain, our Department of State was particularly interested in securing a better understanding on the part of these countries of the reasons for the restrictions and to remove the conception that these were based on mere trade considerations. Such visit for inspection and discussion of the subjects concerned was also urged

by the diplomatic representatives of France and Spain.

Fruits in France Excellent

The inspection of the fruit-stocks district of the Loire, in company with Director Lesage and Doctor Saulner, the latter in charge of the plant-inspection service of France, occupied some five days and afforded opportunity to visit not only all the principal districts but to meet many of the prominent growers and handlers of such stocks. Conferences were held at different places, and every opportunity was afforded for examinations. Incidentally, it may be noted that the condition of the fruit stocks was excellent, not only from the standpoint of vigorous growth but also from apparent freedom from pests.

The trip to South France followed immediately and involved an examination of the bulb cultures in the vicinity of Toulon, Ollioules, etc. The harvest was nearly completed, but examinations were made of the actual digging of the bulbs, the concentration for export in packing sheds and bins, and the methods of the packing, examination, and sorting for packing and export. So far as could be determined by examination made at the time, the bulbs were uniformly in a healthy and sound condition. Opportunity, of course, did not offer for prolonged and detailed examinations. The various inspection and research plant laboratories in the region were visited, and useful contacts were made.

Inspects Grape District in Spain

The inspection trip to the grape districts in the Province of Almeria was under the direct conduct of Mr. Guijarro, secretary-general of the National Union for the Exportation of Agricultural Products, an official body which cooperates with the Government in determining plant trade relations and treaties affecting such relations. The commercial attaché of the United States embassy at Madrid, Mr. Cunningham, also accompanied Doctor Marlatt on this trip. En route, at Murcia, Spain, the party was

(Continued on page 7)

LARSON ADDRESSES BUTTERMAKERS

Urges Creamery Men to Aid in Bettering Quality of Farm Product and Suggests Methods

The greatest opportunity for improving the creamery lies in improving the production on the farm, said Dr. C. W. Larson, chief of the Bureau of Dairying, in an address before a meeting of the National Creamery Buttermakers' Association at Portland, Oreg., September 16. It is the foundation of our industry that needs our greatest attention at present. There are cows in every community that are not satisfactory, he continued, and it is my purpose to tell you something about these cows and what is needed in the way of improvement—how the creamery can help and how the creamery may be benefited by its activities.

Doctor Larson spoke of the general methods that are used to improve dairy production on the farm, such as the use of better sires, the selection of dairy cows by means of the cow-testing association records, and better methods of feeding.

Many of you know, he said, that it is not difficult and does not require a very long time through proper selection and breeding to develop the kind of cows we ought to have on our farms. But in many instances we are not using the best means we have of doing this, which is through the use of good sires. Good bulls are not expensive, and they cost no more to keep than poor ones. Without this one step our progress will be greatly retarded.

Association Records Show Value of Sires

"In the study of cow-testing association records in our bureau we are also comparing the records of the daughters of purebred bulls with the records of the dams of the daughters. The results

are startling. In some cases every daughter of a sire excelled a high-producing dam in production of milk and butterfat. In other cases every daughter of a sire produced less milk and butterfat than was produced by a medium to low-producing dam. We must get rid of the inferior and mediocre sires and use to the limit the sires that improve our herds. It is easy to increase the production of our average cows when we use purebred bulls of reasonably good breeding and with ancestry of satisfactory production.

"The investigators and field men of our Bureau of Dairying, cooperating with the dairy extension field men of the various States, are now at work to bring increased production through better breeding; and the way they are going about it, they will succeed. They are not stopping with knowing the figures that show production of dams and daughters, but are carrying these figures right into the field and using them to defend or to condemn the sires. The bull will not be condemned on his appearance nor on the appearance of his calves, but if he must be condemned it will be on the actual yearly production records of his daughters. The cow-testing association has already eliminated guesswork in the selection of our dairy cows. It is just beginning to eliminate guesswork from the selection of our dairy bulls.

"The facts, therefore, about economical production, and our present situation, so far as our dairy herds are concerned, are, first, that the average cow is not good enough. It is easily possible by selection and breeding to double the production of the average cow, and when this is done her profitableness is many times increased and the farmer's interest in dairying stimulated. The second need is for good bulls. On a large percentage of our dairy farms we are not using good bulls and could do so to our very great advantage. The third need is for a feeding program in each community.

Creamery Men Should Study Conditions

"The first general point, therefore, that I wish to call to your attention is that you, as butter makers and creamery managers, can, to advantage, learn just what the situation is in your community. It would be, it seems to me, feasible to make a survey of conditions on every farm that supplies your plant with milk or cream. Find out the number of cows and their average production, whether or not purebred bulls are used, and whether or not there is a definite feeding program; and with this done I come to my second topic, namely, what are you, as creamery men, going to do about it? I

have not come here to suggest that you leave your jobs as manufacturers and become county agents or specialists in dairy extension, but it is my purpose to point out that there is a place you can fill in improving the conditions among your patrons. If you will first learn the situation through the survey I have already suggested, the next step would be for you to obtain the help of the agencies in your State and community to bring improvement about. Your county agents and dairy specialists, and in some cases your own field men, should be utilized to the fullest extent. I am not proposing that you yourselves visit the farms of all your patrons—though this would be a splendid thing if you could do it—but my suggestion is that you cooperate with all the agencies in your community and State and help them in carrying their program through. Whenever there are meetings of farmers, see to it that you help with the meeting in every way. Whenever there is information available, see to it that every patron is provided with it. Bulletins, circulars, and other material bearing upon the dairy cow and her feeding and management should be secured and it would be an excellent plan to have every patron provided with such material.

"If it is found upon investigation that the average cow in the community produces only 150 pounds or even 200 pounds of fat a year, find out how to double that production, and give your assistance to the county agent and others who are engaged primarily for just such work, suggested Doctor Larson. Find out how many purebred bulls are being used and if every patron is not using a purebred bull in his herd see to it somehow that by next year all the calves that are born in your community are at least half purebred. Some creameries offer cash prizes for accomplishments, some offer bulls, some assist bankers in getting good bulls brought into the community. Also it is possible, he continued, to encourage better dairying in a community by a survey of the feeding operations. If there is no alfalfa, sweet clover, or legume of any kind on some of the farms, see to it that a few acres of the crops best suited to the community are grown.

Better Communities—Better Creameries

"Another general point is the effect that all this will have upon your plant. You will have a better community, your patrons will be better satisfied; you will only need to go half so far to get your supply, or by going the same distance as at present you can double your supply. This means less hauling and less cost. With a more contented and more profitable dairy community, better progress

can be made in the improvement of quality. With a larger check coming to each patron he will be more interested in taking care of his milk and cream. He can deliver it oftener. This will be reflected in the quality of the milk and an increased price will be paid for the product.

"All this, therefore, has a direct bearing upon one of the great needs of our manufacturing to-day, namely, better quality. From the standpoint of the manufacturers, the other need is efficiency, and this too will be greatly affected by the improved conditions which you bring about. In our whole dairy field there is nothing so badly needed as the improvement of our cows, and the creameries, their butter makers and managers, have a splendid opportunity for good service in improving them. If, instead of criticism in the weighing room and in other contacts with the farmers, we would say less about quality for the time being and more about better cows and better bulls and better feeding methods, better quality would come of itself, and my message to the creamery men to-day is that the industry needs your help. You are in the best position of anyone to assist in the improvement of conditions on our dairy farms, and you in turn will share in the greater prosperity that will come to your community."

President Reserves Islands For Wild-Life Refuge

President Coolidge, by Executive order of August 7, 1925, has withdrawn from settlement, location, sale, or entry, all islands owned by the United States in the Mississippi River between Rock Island, Ill., and Wabasha, Minn., and has reserved them for the use of the Department of Agriculture in connection with the establishment of the Upper Mississippi River Wild-Life and Fish Refuge. The islands are withdrawn in order that the Department of Agriculture may hold them as parts of the wild-life refuge from the start instead of having to buy them later from private owners. These islands, with other islands in the river north of Cairo, Ill., were first withdrawn from public entry in 1891 for the use of the War Department in connection with possible improvements of navigation on the upper Mississippi, but were restored to entry and disposal by the Secretary of the Interior on April 25, 1925. The order of President Coolidge again retains under Government ownership all islands within the limits of the new wild-life refuge.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

WINTER WHEAT OUTLOOK FOR 1925

Winter wheat production in the United States next year will be considerably in excess of probable domestic requirements if reported intentions of farmers to increase acreage some 4,000,000 acres above last year are carried out and average yields are secured, the department points out in its latest wheat outlook report. This situation, the department says, would place winter wheat on a world market basis. The fact that our market is now on approximately a domestic basis is considered largely to have brought about the present favorable market position of wheat producers. European countries have been gradually expanding wheat areas to the point that the area in 19 European countries is now 92 per cent of the estimated pre-war average. Farmers in planning their planting, the department says, should consider not only the outlook for the total wheat crop but also the outlook for the class of wheat produced. In recent years the United States has consumed for feed, seed, and in mill grindings approximately 230,000,000 bushels of soft red winter, 200,000,000 bushels of hard red winter, and about 50,000,000 bushels of white wheat, in addition to practically all the hard red spring wheat produced. The experience of the past few years indicates that these quantities of these classes can be disposed of within the United States without competing in foreign markets.

FEED BEES TO AVOID WINTER LOSSES

Statistics gathered by the department show that the beekeepers of the United States lost 16.4 per cent of their bees during the winter of 1924-25. Since much of this loss was caused by poor winter food supply, the importance of properly feeding bees in preparation for winter is stressed by the department. The Bureau of Chemistry has developed a formula for making sugar sirup to be used as a winter feed for bees. Feeding each colony of bees from 10 to 15 pounds of this sugar sirup in preparation for winter is recommended by the bee culture laboratory of the department.

30,000 ANTELOPE IN NORTH AMERICA

A careful census taken of the pronghorned antelope in North America by the Bureau of Biological Survey shows that

there are now approximately 30,000 pronghorns existing in North America in a total of 286 scattered bands. These numbers seem sadly meager in comparison with the millions once inhabiting this continent. The pronghorn is the only species of antelope native to America. Leading conservation organizations maintain an attitude of conservation decidedly in favor of the pronghorn which is doing much to secure the future of the antelope.

BIG INCREASE IN WORLD RYE CROP

Rye production in countries that produce 78 per cent of the world crop, exclusive of Russia, is reported by the department at 774,000,000 bushels this year against 569,000,000 bushels in 1924, an increase of 36 per cent. Germany's rye crop this year is the largest since the war, being estimated at 301,873,000 bushels against 225,573,000 bushels last year. Pre-war production in the same territory was 368,000,000 bushels.

ENOUGH NEW ROADS TO CIRCLE WORLD

Twenty-three thousand miles of highways were built to grade or surfaced on the State systems in 1924, according to information collected by the Bureau of Public Roads from the various State highway departments. More than 17,000 miles were surfaced. The bureau estimates that at the end of 1923 there were surfaced roads in the State systems totaling 111,400 miles. Adding the mileage surfaced in 1924, after making allowance for the fact that a portion of the new work consisted of the resurfacing of old roads, it is indicated that approximately half of the 251,610 miles embraced in the State systems were surfaced at the beginning of the present year. These figures represent work done under State supervision, including Federal-aid work, but do not include county or local work off the main State systems. Progress in 1925 should be at least as great as in 1924, according to the best information available.

TEXTILE CHEMIST APPOINTED

Miss A. Elizabeth Hill, for the last eight years chemist in the Henry Phipps Institute of Chemical Research, Philadelphia, Pa., joined the staff of the division of textiles and clothing of the Bureau of Home Economics on September 1. Miss Hill has received both her bachelor's and master's degrees from the University of Pennsylvania, specializing throughout the course of her training in the various phases of organic chemistry. Her work at Phipps Institute was

centered on dye problems. It entailed the preparation of new dyestuffs and the study of their fastness and other properties, as well as their therapeutic value in the treatment of tuberculosis. Miss Hill has reported the results of her research on the preparation of organic arsenicals in two papers published in the *Journal of the American Chemical Society*.

Thus Miss Hill's work, which has kept her constantly in touch with problems in textile chemistry, makes her especially well fitted to aid in the textile research of the Bureau of Home Economics. Her first problem in the bureau will be the study of the chemical and physical changes of textile fibers caused by the process of home laundering. Many phases of this subject require scientific research before recommendations can be made to replace the unsatisfactory household methods now in use.

OCEAN WEATHER CHARTED DAILY

Charting the weather from day to day over the oceans, on the basis of reports from fixed meteorological stations on land and those received by radio and by mail (at the end of each voyage) from vessels at sea, is an enterprise that has been carried out in various forms by meteorological institutions. The most ambitious undertaking of this character is the daily chart of the North Atlantic, which has been published for many years, in quarterly installments, by the Danish Meteorological Institute and the Deutsche Seewarte, at Hamburg.

The Imperial Marine Observatory at Kobe, Japan, has recently been publishing a very creditable series of Daily Weather Charts of the North Pacific Ocean. These daily charts are issued in monthly collections a few months after the periods to which they refer.

As a result of correspondence between the Weather Bureau of the United States Department of Agriculture and the Kobe Observatory, arrangements have been made to supply the latter institution with the vessel reports received twice a day by radio at the San Francisco station of the Weather Bureau from the region of the Pacific east of the 180th meridian. This contribution will materially increase the value of the Kobe charts, the available data for which have hitherto been quite meager.

Grasshoppers, as a whole, are not causing any serious general devastation, according to the Bureau of Entomology. Reports of unimportant and very localized outbreaks have been received from the Middle Atlantic, East Central, Upper Mississippi Valley, Great Plains, and Rocky Mountain States, as well as Mississippi and Texas.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Amendments to the Property Regulations

MEMORANDUM NO. 542.—September 1, 1925. Paragraphs 207, 208, 209, and 250 (Appendix—List of Expendable and Nonexpendable Property) of the Property Regulations of the Department are hereby amended to read as follows:

207. CLASSIFICATION.—The department property will be grouped, according to the manner of its final disposition, into three general classes. (1) Expendable property, comprising (a) supplies that are destroyed or consumed by use, such as stationery and fuel, (b) supplies that are soon worn out by use, such as mops and brushes, and (c) all material or parts used in construction or repair work, such as bricks, nails, lumber, and machine parts. (2) Semisexpendable property, comprising (a) property which is subject to such hard wear or deterioration as to render its period of useful life relatively limited, such as hoes or trowels, and (b) articles which are readily subject to breakage and which have little or no salvage value when broken, as tires, traps, wrenches, etc. (3) Nonexpendable property, comprising (a) property of a permanent character, such as instruments and furniture.

208. BUREAU RECORDS.—A complete and accurate record of all bureau property shall be kept in each bureau by an employee or employees designated by the chief of the bureau. The records of nonexpendable property shall show with respect to each article in the bureau and each article received by requisition, transfer, fabrications, or by field purchase under letter of authorization, the number and cost and either where it is located or the name of the person in whose possession it is.

The record of semisexpendable property shall consist of formal acquisition memoranda showing the number and cost and either where located or name of employee in whose possession it is. These memoranda may be filed without transcript of their contents in the property record. The records of expendable property shall show the number, cost, and date of receipt of articles received and on hand in the storeroom and the number, cost, and date of issue of articles issued to an official or employee. The records of all classes of property will be supported by receipts of the employees to whom articles have been issued. All records of property must be made available for audit to the chief of division of purchase, sales, and traffic or his designated representative.

209. INDIVIDUAL ACCOUNTABILITY.—Each employee intrusted with nonexpendable or semisexpendable property shall be required to receipt and, from time to time, account therefor.

The reports of nonexpendable property will be checked against the bureau records; the reports of semisexpendable property will be submitted for examination but not ordinarily checked against the bureau records. An employee intrusted with expendable property shall likewise be required to receipt therefor,

and, when the chief of the bureau shall so direct, account therefor from time to time. Having receipted for a nonexpendable article, an employee may be relieved of responsibility by authorized delivery of the article to another employee of the bureau and taking his receipt therefor; (2) by presenting a certificate approved by the chief of the bureau, or by an employee authorized by the chief of the bureau to approve such certificates, that the article has been consumed in use, lost, stolen, damaged beyond repair, or destroyed; (3) by payment to the disbursing clerk or appropriate fiscal agent of the value of the article at that time as determined by the chief of the bureau or other employee designated by him; (4) by sale or other disposition by a board of survey (see paragraphs 211 and 212); or (5) by abandonment (see paragraph 214).

Each employee may be relieved of responsibility for semisexpendable property by notation on inventory of (1) transfer to another employee, (2) consumption in use, loss, theft, or damage beyond repair, or destruction, or by payment to the disbursing clerk or appropriate fiscal agent of the value of the article at that time as determined by the chief of the bureau or other employee designated by him; (4) by sale or other disposition by a board of survey (see paragraphs 211 and 212), or (5) by abandonment (see paragraph 214).

No receipt should be signed until the list of articles to be receipted for has been verified and the articles have been delivered to the place at the disposal of the employee giving the receipt. (Law 861.)

250. BUREAU PROPERTY LISTS.—Each bureau will maintain separate lists of nonexpendable, semisexpendable and expendable property, approved by the chief of the division of purchase, sales, and traffic, to whom will be submitted the tentative classification of new acquisitions, together with all proposed changes in the lists. The lists shall be transferred to the expendable, semisexpendable or nonexpendable lists at the discretion of the chief of the bureau.

(a) Fixtures placed by the department in a private building which has been rented will be accounted for as nonexpendable property. Fixtures placed in a building owned by the department may be considered as a part of the building and need not be accounted for separately.

(b) Materials and parts for construction purposes may be considered as expended when applied to the work, but the constructed article in its entirety, such as a telegraph line, building, fence, shed, or wall case, must be accounted for when completed. Materials and parts for repair purposes or to replace other parts will become a part of the article repaired or to which it has been attached, such as a boiler, vehicle, telegraph line, fence, or electric fan, and may be considered as expended when applied to the work. When an impracticable to obtain, the purchase parts needed for the repair or improvement of other articles or the creation of new articles, or when economy of expenditure or efficiency of use will result, and the necessary parts can be taken from articles on hand and no longer needed for the purpose or which originally designed, such articles on hand may be regarded as parts and expendable under this paragraph. Entire articles may be purchased and considered as parts and expendable when immediately used in the same way. When in experimental research work it becomes necessary to destroy an article ordinarily carried as nonexpendable it may be considered expendable for the purpose of the investigation in which it is used.

(c) All articles of platinum shall be carried as nonexpendable. Owing to its value, all platinum shall be specially safeguarded and shall be accounted for by weight, size, or identification mark, and every transfer from one official or employee to another shall be evidenced by a receipt, and any loss, damage, or consumption in use, or other disposition of same, shall be recorded.

(d) Under the item "Outfits" each article comprising the outfit must be accounted for.

The amended procedure is designed primarily to reduce the work or property accounting and accomplishes this end by providing a semisexpendable class in which may be included many articles heretofore listed as nonexpendable, the accounting requirements in connection with such semisexpendable property being much less elaborate than those prescribed for the nonexpendable group. The amendment to paragraph 250 contemplates the abolition of the general departmental list of expendable and nonexpendable property.

Preparation of the Monthly Crop Reports of the Bureau of Agricultural Economics—Amended

MEMORANDUM NO. 543.—September 4, 1925.—Secretary's memorandum No. 438 relative to the preparation of monthly crop reports is hereby amended to read as follows:

Paragraphs 4 (d) and 4 (e) are amended to read as follows:

(d) The key for opening the receptacle in which the seed and reports of the agricultural statisticians of the Bureau of Agricultural Economics are kept in the office of the Secretary shall be in the possession of the administrative assistant, or the assistant administrative officer in the office of the Secretary of Agriculture, and will be used by them only, or by the Secretary or Acting Secretary of Agriculture.

(e) The reports of agricultural statisticians shall not be removed from the receptacle and their seals broken until the morning of the date on which the report is issued, when they will be delivered to the chairman of the crop reporting board by the administrative assistant to the Secretary, or the assistant administrative officer in the office of the Secretary of Agriculture, or by the Secretary or Acting Secretary of Agriculture.

Paragraph 6 (c) is amended to read as follows:

The crop reporting board will hold its sessions in the board room of the Division of Crop and Livestock Estimates in the third floor of the building located at 200 Fourteenth Street, S.W., and the clerks, stenographers, and others engaged in assisting the board will occupy the adjoining offices on the same floor. No one actively engaged in the work of making private crop forecasts or estimates for either himself or for any other individual, firm, corporation, or association shall be admitted to these rooms while the board is in session, except by the express order in writing of the Secretary or Acting Secretary of Agriculture.

No other person not assisting immediately in the preparation of the report will be allowed in these rooms except by permission of the Secretary of Agriculture or the Chief of the Bureau of Agricultural Economics, and no communication between these rooms and anyone outside will be permitted while the crop reporting board is in session, except that additional reports may be sent into these rooms.

GERMAN SCIENTIST STUDIES HERE

Dr. H. Axel Schindler, department manager in the German Agricultural Council, Berlin, Germany, conferred with members of the Bureau of Dairying last week.

He is in this country making a study of economic conditions and was especially interested in the economic factors concerning the making and feeding of ensilage. According to Doctor Schindler, Germany has not made its greatest use of ensilage. It seems that the hay crops, including the legumes, are used quite extensively in that country for ensilage purpose, but he is of the opinion that they can well grow other crops for this purpose. He expressed the idea that it would be of great economic importance to Germany if that country could develop a variety of corn that would mature to such an extent that it could be utilized for ensilage purpose.

Doctor Schindler visited the Bureau of Dairying farm at Beltsville and is contemplating a trip through Pennsylvania, New York, Wisconsin, and Minnesota. It is also likely that he will attend the National Dairy Exposition to be held at Indianapolis, Ind., October 10 to 17.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is the relation of the so-called deficiency diseases to diet?

Answer. Scurvy, beriberi, and ophthalmia are among the so-called deficiency diseases. In the early history of the disease of scurvy it was found that people deprived of fresh fruits and vegetables for long periods of time developed scurvy. By including plenty of fresh fruits, especially oranges and lemons, and vegetables in the diet the disease may be prevented. Beriberi, a disease prevalent among people who eat polished rice, is prevented when whole grains or plenty of fruits and vegetables are included in the diet. Ophthalmia, an infection of the eye, is due to a lack of a certain factor in the diet which occurs in butter, cod-liver oil, egg yolk, and other natural fats. The factors occurring in foods which prevent scurvy, beriberi, and ophthalmia are called, respectively, vitamin C, vitamin B, and vitamin A.

Question. Why do hardwoods often take the ground when pines are cut off?

Answer. Small stunted oaks, hickories, gums, maples, sassafras, and other hardwoods will be found upon close examination growing under the shade of mature pines. Usually these go unnoticed. When the pines are cut away the hardwoods spring up, particularly so after fire burns over the tract following logging. The young pines are thereby killed, but the hardwoods under such conditions usually sprout up readily.

Question. Are there any snakes which hibernate?

Answer. All snakes in temperate climates hibernate during the colder months of the year. Their chance of survival in northern latitudes depends upon their burrowing ability. Those that burrow beneath the frost line survive the cold season; the others perish. The Biological Survey says that snakes are extremely sensitive to cold, many of our common North American snakes not ranging much farther north than the Canadian border, others staying south of the Ohio River. The range of the garter snake is known to extend northward to the region around Great Slave Lake, and there are records from the Yukon region which appeared to be authentic. This snake has an exceptionally wide range. In relatively mild

climates black snakes have been found hibernating in cavities in trees several feet from the ground. Rattlesnakes, copperheads, and certain other snakes have dens in rocks in which they hibernate during the coldest part of the winter, and at times large numbers of snakes congregate in a single cavity. References are to be found in literature to "bundles of snakes" found by workmen blasting in rock formations.

Except certain species adapted to extremes in aridity, snakes, especially the subaquatic types, succumb also to intense heat. It has been reported that even the rattlesnakes, which frequent the Mohave Desert, can be killed by 20 minutes' exposure to direct rays of the mid-day sun. A number of our snakes aestivate, or become torpid, during the hottest part of summer.

PROF. ELLSWORTH BETHEL

Prof. Ellsworth Bethel, associate pathologist in the Office of Investigations in Forest Pathology, Bureau of Plant Industry, died September 8, 1925. In poor health for the past two years as the result of overwork, he had recently improved, and the news of his death came as a surprise. He had been in the service of the department since April 16, 1917, with headquarters at Denver.

Professor Bethel was born in Ohio and was 62 years of age. For 27 years prior to his department service, he was instructor in biology and later head of the biology department in the Denver High School. During this time he collected widely and became well known for his work on the flora and plant diseases of the region. He was unusually generous in giving his time and specimens to assist specialists in related lines, and much work published by others has been based on his collections and field data. He was particularly eminent as an authority on the rust fungi, and entered the department to assist in straightening out the confusion on the western rust of currants and gooseberries with the foreign white-pine blister rust, which in the stage on currants and gooseberries is nearly indistinguishable from the native fungus. He had a large part in the demonstration that the western currant rust was a stage of a rare and previously unknown parasite of the native piñon pine; this discovery greatly simplified the campaign for protection of American forests from the imported white-pine blister rust. He continued his researches on various rusts of western forests, his remarkable familiarity with both the host plants and the rusts of the region enabling him to do unique

work in tracing the life histories of those rusts which in part of their life cycles attack trees. He was also engaged in studies of fungi which kill pine needles. While he has prepared a number of manuscripts which are not yet published and leaves behind him a large and valuable collection, his death stopped him in the midst of his activities and has caused a serious loss to botany in general, and particularly to that branch dealing with rust fungi.

Public Printer Praises Department Copy Writers

Next to the pleasure derived from having done a job well is the satisfaction of having the good work appreciated by others. That good work is recognized and appreciated may be seen in the following letter from the Public Printer to the Secretary of Agriculture, in which praise is extended to the Office of Experiment Stations for excellent copy preparation. Here is the letter:

MY DEAR MR. SECRETARY: I take this opportunity to call your attention to the most excellent copy recently furnished the Government Printing Office by the Department of Agriculture for the general index of the Experiment Stations Record.

The composition for this large job of 4,171 folios of typewritten copy is being handled in our monotype keyboard section, and the deskman, who has been employed in the office for a period of almost 32 years, reports that he has never seen a neater job of typewriting, combined with evidence on every hand of careful and painstaking compilation. The foreman and assistant foreman of the monotype section take great pleasure in approving and indorsing the statements of the deskman, and express the thanks and appreciation of themselves and the keyboard operators for the receipt of such perfect copy. The index contains a great many technical and scientific names, and was perfectly prepared, without a scratch or interlineation.

I wish to commend each and every employee of your department concerned in the compilation and preparation of the copy furnished. If all copy received in this office were as plainly written and carefully prepared as this particular job, it is believed fully 25 per cent in cost and labor would be saved and would result in more expedition and satisfaction to all departments concerned.

Very truly yours,

GEORGE H. CARTER,
Public Printer.

V. R. Dharwaikar, M. Ag., cotton superintendent of the department of agriculture, Dharwar, Bombay Presidency, India, is visiting this country and spending much of his time about the department, where under the direction of C. W. Warburton, Director of Extension, he is studying grading and baling of cotton and kindred subjects. He has been in charge of his present work in India for about 16 years.

NEW IDEAS AND DISCOVERIES

Fish Oil as an Adhesive in Arsenate of Lead Sprays

Many experiments and tests have been made at the gypsy-moth laboratory of the Bureau of Entomology at Melrose Highlands, Mass., with various substances which were added to arsenate of lead and other spray solutions as adhesives, but few have proved to be satisfactory. Some of the substances used were soap, glue, casein, molasses, glucose, and flour. As spreaders, some of these materials proved very satisfactory.

The value of an adhesive material is determined by the length of time that it will bind the spray to the foliage in localities where heavy rainfall or an excessive amount of fog or dew is likely to occur.

From 1921 to 1924 many experiments and tests were made to find some substance which, when added to spray solutions, would cause them to spread and to adhere more strongly to the foliage. From 1921 to 1923 experiments were made in a small way. In 1924 they were conducted on a larger scale, high-power sprayers being used and large areas being covered. These areas were in Saugus, Mass., and Somerville, N. J. Only those materials which showed at least some value as adhesives in the experiments from 1921 to 1923 were used in the tests made in 1924. In addition to these, however, two substances were tried which were not used in the previous experiments.

In 1924 the following substances were added to the spray solution that they might be tested as adhesives: Linseed oil, fish oil, corn oil, lead oleate, flour, a proprietary casein product, soap, and a proprietary miscible oil. All of the spray solutions containing these materials were applied in the early part of June. After each moderate to heavy rain the foliage was examined, and the amount of spray washed from the foliage was estimated and samples of the leaves retained. Careful examinations were also made that any injurious effects occurring on the foliage might be noted.

The season of 1924 proved to be excellent for testing the adhesive qualities of the different substances, as the rainfall in both the New Jersey and Massachusetts plats was above normal. As a result of the experiments and tests conducted during the season of 1924, the materials which ranked preeminently as adhesives were the drying oils, linseed oil, fish oil, and corn oil, and for effectiveness

these stand in the order named. Linseed oil adheres more closely to the surface of the foliage than does the fish oil, but the difference is slight. Corn oil is not so good an adhesive as either of the foregoing oils, but is much more efficient than any of the other materials used. Fish oil is slightly less efficient than linseed oil, but is much cheaper, and hence to be recommended for large spraying operations. For treating small areas the use of linseed oil can be resorted to, as it is easily obtained.

Either of these oils is used at the rate of 1 gallon to 400 gallons of spray solution, and the best results are obtained by adding the oil after the arsenate of lead has been well mixed with the water and while the solution is being agitated. Good agitation should be given the solution at all times while it is being applied, not only to obtain an even coating of poison but to get maximum adhesive qualities. Large quantities of fish oil are used in gypsy-moth spraying operations and the best grade is always used. This is known as "light pressed" and is yellow to brown in color. A cheaper grade, known as "crude fish oil," can be obtained, but as this contains stearin, it is likely to clot and it would not be economy to use it.

Arsenate of lead solutions containing fish oil not only adhere strongly to the foliage on the trees but also to the undergrowth and vegetation beneath the trees. Under no circumstances should livestock be allowed to graze beneath trees sprayed with this solution, as poisoning may result.

More details of the results obtained with fish oil as an adhesive will be published later.

CLIFFORD E. HOOD.

BUREAU OF ENTOMOLOGY,
Melrose Highlands, Mass.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

New Jersey.—Earl L. Scovell, assistant forester in the State Department of Conservation and Development, has been appointed extension forester and will devote six months of the year to extension work, continuing his duties as assistant forester the remaining six months.

Oklahoma.—G. E. Martin has been appointed extension agricultural engineer to take the place of W. H. McPheeters, who has resigned to accept a position with the Portland Cement Co.

Tennessee.—Zella Williams has been appointed home demonstration agent in Knox County to succeed Myra Reagan, resigned on account of poor health, and

Marietta McNeely, home demonstration agent in Fayette County, to take the place of Gertrude Officer, resigned. W. P. Flatt, county agent in Sequatchi County, has resigned.

FORTHCOMING EVENTS

The annual conference of New Jersey extension agents will be held at New Brunswick, October 28-30, inclusive.

IMPORTANT DEVELOPMENTS

At the annual calf-club show of Warren County, N. J., held in Hackettstown August 26, 40 head of club animals were exhibited. The winning members received as prizes purebred calves, the money for which was donated by six leading banks of the county. Following the calf show, 15 purebred bulls, ranging in age from 3 months to 3 years, were sold to farmers in the county at an average price of \$100. Fifteen other bulls had previously been placed in the county during the year. Much of the success of the purebred-sire campaign can be traced to interest in club work. In the calf-club project and the better-sire campaign the extension service has had the cooperation of a committee of leading men in the county, including a State assemblyman, one of the leading bankers, members of the Kiwanis Club, and prominent farmers. More than 800 persons attended the show and sale.

The State district camps for club boys and girls held in Tennessee during July set a new record for the State in point of attendance, over 800 being enrolled. The largest club camp ever held in Tennessee was the district camp at the Experiment Station near Jackson, July 13 to 18. This camp was attended by 444 club members from 10 counties. Haywood County, with 192 club members present, won the silver trophy cup for having the largest attendance of any one county. The State club camp held at the University of Tennessee, Knoxville, July 20-25, was attended by 270 club members from 22 counties. This was the third annual State camp, and the attendance was greater than either of the previous years, and a greater number of counties were represented.

The Office of Information has recently received from Members of Congress a number of copies of the Yearbook, 1914. This publication will be distributed to employees as long as the supply lasts. Persons desiring to secure a copy of the Yearbook of the date mentioned may address the "Distribution Section, Office of Information, United States Department of Agriculture."

WITH EXTENSION FORCES

STANDARD CORN VARIETY ESTABLISHED

"Can somebody grow 100 bushels of corn on a measured acre of ground in 1924?" asked H. H. Simpson, county agent of Weld County, Colo. Opinion, looking at the county's past acre average of about 20 bushels, was dubious. But opinion overlooked something that had been going on in the seed-corn line, and somebody did grow 100 bushels on a measured acre in 1924; in fact, he grew 5 acres which averaged 104 bushels.

Previous testing of a number of varieties of corn under conditions similar to those in Weld County had convinced Mr. Simpson that Minnesota 13 was the most satisfactory variety for that soil and climate. When he became extension agent of the county in the summer of 1922 he found that a miscellaneous assortment of corn varieties was being grown, with a low average yield. He resolved to work toward establishing a standard variety with higher yield for the county, not by attacking other varieties but by keeping the virtues of Minnesota 13 constantly in plain view.

Obtaining seed from the Minnesota experiment station, he started out in advance of 1923 planting to find five adult farmers and five club members who would be willing to attempt growing certified seed. Twenty-one farmers and 39 club members responded and planted some of the seed. Nine farmers' plats were certified, and this, with the yield from the 10 club acres certified, made 55,000 pounds of registered seed available for planting for the 1924 crop.

Minnesota 13 was kept in the corn-growers' minds during 1923 by several methods. The newspapers of the county were interested and ran a number of local items about individual farmers and club members and their corn crops at different stages. Circular letters and posters were used extensively. In the fall, club members' exhibits went to local, county, and State fairs, and at the State seed show won 10 out of 12 possible placings, together with the State championship.

Two club members growing Minnesota 13 were trained in a demonstration of seed selection and testing, which they gave at the county and State fairs. By special request they repeated it for the farmers of their community, giving it in the corn field of one of the boys.

Then 1924 found the agent with a crop-improvement committee from the county organization to support and aid in the corn and other seed standardization work. They started things off with a

county seed show, the first in the county. Cost of the show was borne jointly by the county commissioners and chamber of commerce of the county seat. There were 124 exhibits of corn, grain, and potatoes. At the close a club seed auction sale was held, in preparation for which 1,000 ears of corn had been tested for germination and then put up in half-bushel crates.

Newspaper items, circular letters, posters, demonstrations, and exhibits were again used. The county-fair board agreed to offer extra premiums on crop varieties especially adapted for the county and designated Minnesota 13 as the standard corn variety.

The 100-bushel-to-the-acre contest was another new feature. It was not a favorable corn year; the county average acre yield dropped sadly, but a club boy who had had four years' experience in the efficacy of good seed and good methods had the courage to keep trying. The lesson he gave with his five acres and 104-bushel yield is still talked about. This year, 1925, the farmers of Weld County obtained over 150,000 pounds of approved Minnesota 13 seed for planting and are busy seeing what good seed and good methods will do for their yields.

MARLATT VISITS FRANCE AND SPAIN

(Continued from page 1)

met by a delegation from Almeria, including the various officials and growers, and from that point motors were taken, affording opportunity to investigate the grape and other fruit cultures in Almeria through the north half of the Province. Later similar investigations were carried out in the principal grape areas in the Province to the west and south.

Every facility was extended to make the investigation as complete and informing as possible, and at the conclusion an important conference was held, at which the whole subject was thoroughly discussed. Doctor Marlatt feels that not only was the information gained very useful but that the important object of the trip was achieved, namely, in securing a more general appreciation that the embargo on these grapes had no other purpose than the very necessary protective one to exclude a new and dangerous fruit pest, and had no relation whatever to mere commercial protection.

Almond and Orange Districts Visited

At the conclusion of the inspection of the Province of Almeria, and at the earnest request of the Spanish authorities, the return was made along the coast to afford opportunity for study of the very

important almond and orange development extending from the region of Murcia to Alicante and particularly in the vast irrigated district about Valencia, the third city in population and probably the second in commercial importance in Spain. The almond is a very important product, and methods of harvesting were examined.

The great fruit production of the region, however, is the orange, which has its largest development about Valencia and compares favorably with the best orange sections of California. This section is apparently very prosperous and is finding a good market for its products in European countries. Considerable interest was expressed in the possibility of developing a grapefruit industry, and a promise of aid in securing cuttings of good varieties was made for the department by Doctor Marlatt.

Of interest to the United States also is the enormous production of onions in this region. Methods of harvesting were studied and also the methods of shipping, half a mile of docks at Valencia being piled high with crated onions ready for shipment to the United States and other countries. Incidentally, the first shop Doctor Marlatt entered on his return to Washington had in its windows a case of Spanish onions of the identical type which he had seen in Valencia. Three or four days were given to an investigation of this region.

In general it may be said that the fruit fly, while occurring throughout this Mediterranean coast of Spain, is negligible with respect to the orange crop. The crop ripening at the end of the year is practically free from attack. On the other hand, if the oranges are left over on the trees to carry the fruit into the next summer they are apparently commonly attacked. The only ripe oranges seen in this district were in a fruit shop in Valencia, representing such left-over oranges, and these were all maggots.

The technical report on this investigation will be presented to the department for consideration and any action which may be warranted. Both as to France and Spain, Doctor Marlatt feels that the trip was very successful in clearing away the erroneous impression which formerly existed that the quarantine action of the Department of Agriculture was based on trade or commercial considerations.

It is only fair to state that Mrs. Marlatt, who accompanied her husband on this trip, was universally recognized as a most valuable addition to the "commission," acting as the interpreter in all of the important conferences and aiding materially in this way in the discussions and full understandings that resulted.

The National Dairy Show, at which the department will have a large exhibit, will be held this year at Indianapolis, Ind., October 10 to 17.

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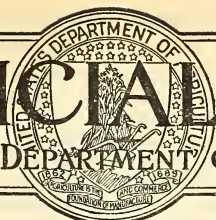
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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 38

SECRETARY DISMISSES PACKER MERGER CASE

Combine Did Not Cause Price Fixing, Monopoly, or Restraint of Trade, Evidence Shows

The merger of the Armour and Morris packing interests was found to be within the law by Secretary Jardine who, accordingly, on September 14, dismissed the complaint against the merger which had been pending since February, 1923.

While there is nothing illegal in the purchase of one packing company's interests by another competitive company, Secretary Jardine stated in his written opinion of the case that "in the event that Armour & Co. violates any of the provisions of the packers and stockyards act there is ample power and authority in the Secretary of Agriculture under that act to take appropriate and effective action."

Merger No Violation of Packer Act

In his opinion, Secretary Jardine holds that the acquisition by Armour & Co. of the physical properties, business, and good will of Morris & Co. does not in itself constitute a violation of the law, which provides against manipulating or controlling prices, creating a monopoly, or restraining commerce. He points out that while Congress in the Clayton Act specifically forbade the acquisition of a competitor's stock, it refrained in the packers and stockyards act from any such provision with reference to the acquisition of a competitor's business.

Neither the purpose nor the effect of the merger, the Secretary rules, was price fixing, monopoly, or unreasonable restraint of commerce. On the contrary, the evidence, he states, shows that the transaction was consummated in order to reduce overhead expenses and to increase the sales of the finished products. As to the actual effect of the transaction, the opinion cites evidence that Armour & Co. since the merger has controlled less

than 25 per cent of the Federal-inspected slaughter of animals, which is a lower proportion than that controlled by Swift & Co., a competing firm. Neither monopoly nor price manipulation to the disadvantage of producer or consumer has occurred, according to the evidence offered in the case, as cited by the Secretary.

Secretary Issues Warning

Secretary Jardine alludes to the argument that the lack of change in competitive conditions since the merger was more apparent than real, due perhaps to the pendency of the case before him, and that the real effect on competition would occur after the disposition of the case. In answer to this, the Secretary, "without attempting," as he says, "to forecast the future policy of Armour & Co. in the conduct of its business," issues his warning that violation of the law will bring future action on his part.

The packer-merger case has been before three Secretaries of Agriculture, Henry C. Wallace, Howard M. Gore, and William M. Jardine, although the oral arguments last April were the only proceedings carried on during the present official's term.

The opinion handed down by Secretary Jardine, however, covers the entire case, tracing its history from the beginning. In November and December, 1922, it is related, officials of Armour & Co. had several conferences with Henry C. Wallace, then Secretary of Agriculture, concerning the proposed purchase of the Morris & Co. packing business. These officials expressed the hope that the purchase would not be found in violation of the law and that it would not meet with the opposition of the Department of Agriculture. On December 22 Secretary Wallace, in response to a Senate resolution, informed the Senate of his conferences with the Armour officials and of an opinion he had obtained from the Attorney General. Secretary Wallace stated that there was nothing in the packers and stockyards act itself which specifically prohibited the purchase by

(Continued on page 5)

NOVEL EXHIBIT GOES TO DAIRY EXPOSITION

The Department Will Show All Links in the Chain From Production to Utilization

The distances between green pastures, dairy barns, milk depots, creameries, dairy markets, and the dinner table have been greatly lessened through improvements in transportation during the past 20 years. But with all this advancement it is not often possible to view at one glance all the links in the chain from production to utilization of dairy products. This year's exhibit of the department at the National Dairy Show, to be held at Indianapolis October 10 to 17, makes it possible to see all of these links from one vantage point.

The form of the exhibit is markedly different from anything shown by the department at a dairy exposition. It might be described as a cross section of the American dairy industry. A typical prosperous dairy farm, with its fields of alfalfa and corn, its house and garden, and its well-improved buildings, is the first scene in the exhibit. It reminds one of a farm where hard work and much thought have been rewarded by the formation of a real home and a productive farm and herd.

Layout of Farm Buildings and Lands Shown

The fields and farmhouse are shown on the canvas. The former are so laid out as to require the least amount of time in getting the crops and livestock to and from them. The fields are not only fenced for cattle, but most of them are hog-tight as well. The large stacks of alfalfa and the many shocks of corn can be seen in the picture. These show, in a large measure, that the farm is very productive, as all good dairy farms should be.

This farmer's house is not pretentious, but its setting in a fenced yard with appropriate landscaping gives it the appear-

ance of inviting rest and quiet. There is plenty of opportunity for sunlight to give cheeriness on wintry days, yet there are many shade trees to give protection from the heat of the summer sun.

Going from the house to the barns we pass the milk house, which is constructed in actual size to show the proper kind and arrangement of equipment for a medium-sized herd. This milk house is not directly connected with the barn, being joined to it by a covered passageway only. In the barn is the farmer himself, telling the story of how his farm was developed.

As the farmer tells his story the visitor will see the cows in their stanchions and read their records of production and the feed charts. The side of the barn, which is actual size, has been removed to permit easy observation of the entire herd and also the construction of the stalls, gutter, and ventilation system. Not all dairy barns are so easy to keep clean as this one, though they may cost considerably more.

At one end of the dairy barn is a silo and a feed barn. All the hay, as well as grain, is stored in the feed barn, which is connected to the dairy barn by a cement driveway. This arrangement keeps all feed odors away from the milk and still makes it very convenient for feeding not only the milking herd but also the young stock and dry cows, which are found on the other side of the feed barn.

The bull barn and manure shed are still farther to the right, and in the exhibit are painted on the canvas.

Charts and Graphs Picture Marketing Channels

A continuation of the exhibit shows graphically the marketing of dairy products from the time they leave the farm until they reach the consumer's table. A creamery office is shown in which the creamery manager is receiving market reports by radio, posting the prices paid for various grades of cream and the prices received for butter of various qualities. On wall charts the relation between receipts at market, production, and prices is shown. Other charts present the difference between feed prices and butter prices, and still others illustrate the operation of the inspection service and how the inspection certificate is now used by cooperative creameries as a guaranty to the consumer as to the quality of the product that he buys.

One display shows a wholesale dairy market, an office scene with charts and moving slides, where the influences that bring about changes in price are illustrated. The growth and trend of the dairy industry are depicted in the series of changing slides and legends.

A retail dairy market, with a counter and dairy products on display just as the

consumer finds it as he goes to buy dairy products, is shown. In this booth the relation of quality to cost and how the consumer may be assured of good quality in dairy products are shown. Extensive investigations made by the department in the merchandising of dairy products have been drawn upon to illustrate good retail marketing. The purpose of the display is to show creamery managers and wholesale and retail dealers in dairy products how to utilize various Government services in the form of market news, inspection, special reports, etc., in operating their businesses.

Value of Dairy Products in Terms of Health

The climax of the exhibit comes in the last booth, which shows the value of an abundant supply of clean, fresh whole milk to the health of the Nation. For science has shown that milk and its products occupy a unique place in the diet of grown-ups as well as children. Every member of the husky-looking family gathering around the dinner table in this exhibit has a good word to say for milk. "Milk builds good teeth and makes us grow," shouts the 10-year-old boy, as he spies the glassful at his place, and his glistening white molars and straight, well-developed body show that he has had his quart a day since babyhood. The dinner menu illustrates some of the ways of serving milk in a well-balanced meal that appeal to the appetite of every member of the family. Potatoes scalloped with plenty of milk are to be served with roast beef and greens; rich, whole milk for all to drink, of course; and ice cream, the favorite of all desserts, to top off. A glimpse through the open kitchen door of the refrigerator, with milk stored in the coldest part, suggests the proper care of milk in the home. The consumer needs to cooperate with the producer in keeping milk clean, cool, and covered up until the very minute it is used. Incidentally, the pass cupboard between dining room and kitchen suggested in the background is an ideal step-saving arrangement, especially for the home maker who does her own work.

RUBBER PRODUCTION IN FLORIDA

Many inquiries are being received regarding the possibilities of rubber production in Florida, but as yet there is no information to indicate the practicability of such an undertaking. Several species of rubber-producing plants grow well in Florida, but there is no assurance that commercial cultivation would be profitable in competition with the East Indian rubber industry.

The Hevea or Para rubber tree of Brazil, which is cultivated extensively in the East Indies, is supposed to require strictly tropical conditions. It has not been tested in Florida, though experiments are now being made. Even if the trees should grow as well as in the East Indies, labor for tapping would cost more, so that the same system of production might not be practicable. Mechanical extraction processes may be developed that will change the outlook of production possibilities with Hevea or other plants, but of this there can be no assurance in advance of experiments.

Most of the popular accounts of rubber trees in Florida relate to *Ficus elastica*, the so-called "Assam" rubber tree, the same species that is often grown as a house plant in the North. In Florida, and also in California, this species thrives in the open air and grows into a large, spreading shade tree, though not always containing rubber. Many experimental plantings of *Ficus* have been made in tropical countries, but the results have not been favorable in comparison with Hevea. The methods of tapping that are used successfully with Hevea are not applicable to *Ficus* or to the Central American rubber tree, *Castilla*. Extensive plantings of *Castilla* were made in Mexico, but were abandoned about 20 years ago, after the East Indian plantations of Hevea began to produce commercial quantities of rubber.

Another plant that grows well in southern Florida and produces rubber is *Cryptostegia grandiflora*. It is a handsome shrub with purple flowers and is becoming popular as an ornamental. A species with white or light-pink flowers, *Cryptostegia madagascariensis*, more recently introduced into Florida, is a plant of larger growth, and also contains rubber.

Investigations of the possibilities of rubber growing in the United States are being made by the Department of Agriculture with many species of rubber-producing plants, but until more information is available correspondents are not advised to make large-scale plantings or to invest in rubber-planting enterprises unless they have a special interest in working out the experimental problems.

D. M. K. Reddy, of Buchiredipalem, Nellore, South India, has been studying the department's organization for conducting its research, regulatory and extension activities, and the type of work carried on by the different bureaus. Mr. Reddy has been taking graduate work in animal husbandry at Cornell University, receiving his master's degree in June. After visits to several of the land-grant colleges he will return to India to engage in teaching.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

WORLD USING MORE COTTON

World mill consumption of cotton during the six months ended July 31, 1925, is estimated at 12,000,000 bales, an increase of 22 per cent over the corresponding period last year, by the International Federation of Master Cotton Spinners' Associations in a cable to the department. The 12,000,000 bales estimate is 7 per cent more than consumption during the half year ended January 31, 1925.

REPORT ON CITRUS FRUIT IN FLORIDA

A preliminary estimate of the orange crop in Florida by the department indicates 10,900,000 boxes, excluding tangerines, for 1925-26, or about 600,000 boxes more than the revised estimate of the crop last year. Tangerine production is placed at 600,000 boxes, or 100,000 less than last year, and grapefruit 7,500,000 boxes, or 700,000 less than last year.

ALMOND AND KERNEL PASTE STANDARDS

Definitions and standards for almond paste and for apricot, peach, and plum kernel pastes, as recommended by the joint committee on definitions and standards for food products, have been adopted by the department as a guide in the enforcement of the Federal food and drugs act, according to a recent food-inspection decision approved by R. W. Dunlap, Acting Secretary of Agriculture.

ISSUES FORMS OF COTTON STANDARDS

Decision to issue practical forms for 17 lengths of staple in American Upland cotton and 4 lengths of American Egyptian cotton has been announced by Secretary of Agriculture Jardine in an amendment to the order establishing official cotton standards of the United States for length of staple. The amendment becomes effective August 1, 1926.

TEA IMPORTATIONS FOR 1925

An increase in the percentage of black tea imported and a marked decrease in the percentage of green tea imported during the fiscal year ending June 30, 1925, is reported by the supervising tea examiner of the Bureau of Chemistry. A compilation of the tea examiners' monthly reports for the last fiscal year shows that 92,925,470 pounds of tea were

examined at all of the stations. Of this tea 84,137 pounds, or 0.09 per cent, was rejected. All of the rejections were for quality, except 5,666 pounds, which were rejected for being below the Government standard in purity. It is important to note, however, that the impurities did not consist of artificial color or facing material.

WORLD WHEAT AND RYE CROPS INCREASE

Further increases in the world production of wheat and rye are shown by late estimates received by the department. Wheat production in 25 countries which produce 76 per cent of the world crop outside of Russia and China is estimated at 2,493,000,000 bushels against 2,335,000,000 bushels last year, an increase of 158,000,000 bushels. Rye production in 17 countries, excluding Russia, is estimated at 863,840,000 bushels against 619,271,000 bushels last year, or an increase of nearly 245,000,000 bushels.

Search for Rubber Land Discloses Good Corn Land

The report recently published by the Department of Commerce on the possibilities for Para rubber production in the Philippine Islands includes an account of soil conditions in the regions surveyed by an expert from the Bureau of Soils. In describing the unusual fertility of the good rubber lands in the great alluvial plain of the lower Cotabato River, island of Mindanao, the yield of corn is given at 200 to 250 bushels per acre annually. This enormous yield comes from dark-colored alluvium occupying the higher and better-drained positions near the stream banks. Three crops are obtained from the same field in one year. Back from the water front the surface subsides and the drainage is poorer. The Para rubber tree thrives on the higher land, but grows slowly on the low back lands.

EXPERIMENT STATION PROJECTS LISTED

A classified list of experiment station projects active during 1924-25, prepared by the Office of Experiment Stations, shows 5,538 such projects for the State experiment stations and 150 for the experiment stations maintained by the department in Alaska and the insular possessions, making a total of 5,688, as compared with 5,420 the previous year. Of these, however, 54 are purely administrative and regulatory. Hence, the number of projects devoted strictly to research and experimentation was 5,634.

The subject distribution of the projects differed little from that of the previous year. Field crops led with 1,817 projects, followed by horticulture 952 projects, animal production (including dairy cattle 191 and poultry 205) 926, plant pathology 482, entomology 472, soils 343, agricultural economics 235, fertilizers 213, veterinary medicine 203, agricultural engineering 180, botany 144, genetics 126, dairy products 106, forestry 100, foods and human nutrition 54, and various others.

There were increases during the year of 95 projects under field crops, 50 under entomology, 49 under agricultural engineering, 43 under soils, 33 under horticulture, 32 under plant pathology, 32 under poultry, 26 under economics, 25 under forestry, and small increases under various other subjects.

The list shows that the State experiment stations are carrying an average of about 110 projects per station. Since the total income of the State stations for the year from all sources was approximately \$10,000,000, the average amount for maintenance of each project was something over \$1,800. In case of the stations in Alaska and the insular possessions the average amount was slightly over \$1,300 per project.

The wide scope and variety of the work of the experiment stations is brought out by this list, which should be especially helpful to those planning new research work in agriculture.

The list is issued in limited edition in mimeographed form, and hence is available for only limited distribution.

The St. Louis U. S. D. A. Club, after adjournment during the summer, resumed its monthly meetings September 11, when the members were entertained at luncheon by the City Dairies Co. After a most enjoyable luncheon the party was escorted through the plant, which is said to be the largest establishment in St. Louis devoted exclusively to the manufacture of ice cream. The capacity of this modern plant is 5,500 gallons of ice cream per day.

The known distribution of the Mexican bean beetle has been very considerably increased during the present season, reports the Bureau of Entomology. The pest has advanced eastward to Monongahela and Tucker Counties, in West Virginia, within 20 miles of the Maryland State line, northward to the southern third of Indiana in Monroe and Fayette Counties, and westward to the northeastern corner of Mississippi. There has been practically no southward and but slight southeastward advance of this pest.

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G. A. Lawyer Resigns as Chief U. S. Game Warden

George A. Lawyer, who for nearly 30 years has been chief United States game warden in the administration of Federal laws protecting migratory birds, has tendered his resignation, effective September 15, 1925, and it has been accepted by the Secretary of Agriculture. Mr. Lawyer gave as his reasons for the action that he wished to gratify a long-expressed desire to leave the Government service in order to look after private business affairs. He referred to a previous occasion on which he had tendered his resignation for like reason, when he had been persuaded to remain in the service, but now stressed his feeling that after nearly 10 years in the work he had devoted as much time to it as should be expected of him. In acknowledging the tender of resignation, Dr. E. W. Nelson, Chief of the Biological Survey, expressed his appreciation of the valuable services Mr. Lawyer had rendered, particularly in helping frame Federal regulations for the protection of game and other migratory birds and other forms of wild life in the United States and Alaska and in assisting State game and conservation officials, on their request, to draft new and revised legislation affecting game and other wild life resources. Mr. Lawyer before his connection with the Department of Agriculture had been for several years president of the New York State Fish, Game, and Forest League.

CLOTHING SPECIALIST APPOINTED

Miss Mary A. Davis, of Oregon, has accepted appointment as junior specialist in clothing in the Bureau of Home Economics, and began her work for the department on September 16. For the past two years Miss Davis has been instructor in clothing construction and selection at the University of Oregon. For

the year preceding she held the fellowship in textiles at the University of Washington given by the Bon Marche department store of Seattle. This allowed her to complete her work for the degree of master of arts and at the same time gave her practical experience in analyzing textiles for a commercial firm. Miss Davis also took her undergraduate work at the University of Washington, specializing in textiles and clothing throughout the course.

Miss Davis's first work in the bureau will be in connection with the study of clothing habits and problems of the consumer, which is being conducted in cooperation with the American Home Economics Association. Later she will make a study of the use of textile materials in house decoration with a view to formulating suggestions for farm women.

DR. BRAYTON H. RANSOM

Dr. Brayton H. Ransom, chief of the zoological division, Bureau of Animal Industry, died at a local hospital September 17 after a brief illness.

Doctor Ransom was born in Missouri Valley, Iowa, on March 24, 1879. His parents subsequently moved to Nebraska, and he received the degree of S. B. from the University of Nebraska in 1899 and of M. A. in 1900. He had a fellowship the next year at the University of Nebraska, and the following year at the University of Missouri. Following this he came to Washington in 1902 as assistant in the zoological division of the Hygienic Laboratory of what was then the Public Health and Marine Hospital Service, now the Public Health Service. A year later he was put in charge of the zoological division of the Bureau of Animal Industry, United States Department of Agriculture, and in 1906 was made chief of division, in which capacity he served until his death.

As chief of the zoological division, Doctor Ransom built up a laboratory known the world over for its large output of high-grade scientific and practical work in the field of parasitology. Under his direction the laboratory had built up the largest and finest catalogue and index of parasites in the world, the catalogue and index being the admiration of foreign parasitologists the world over. His administration of his division in its relation to his staff was most generous and fair, and the division has been long known for its high morale and enthusiasm. It was never a one-man laboratory, but was gradually built up to four times its original size in order to meet the many pressing economic problems in the field of parasitology in its relation to the livestock industry of the United

States. The zoological division has published a large number of monographs and shorter papers of a systematic nature, standardized the field inspection procedure in dipping for various external parasites of livestock, introduced one new drug, carbon tetrachloride, into human medicine, where it has been extensively used for the treatment of hookworm disease in practically all countries where the disease occurs, and carried out numerous other investigations on life histories, control measures for parasites, etc.

In the field of economic parasitology Doctor Ransom's division, and in many cases Doctor Ransom himself, first found and reported many new and economically important parasites, developed many practical control measures for such important parasites as stomach worms in sheep, and did the basic experimental work on which much of the meat inspection procedure as regards parasites is based. Doctor Ransom's most striking and important work of late years was his demonstration of the exact life history of the swine ascarid and the development of a swine sanitation system based on this. This system, known as the McLean County System, has been of incalculable value to the swine industry. The life history work done by Doctor Ransom in this connection led to the bestowal on him of the Gold Medal of the Seamen's and Tropical Diseases Research Association, of Kobe, Japan.

Doctor Ransom was a member of the American Microscopical Society, the American Society of Zoologists, the American Society of Tropical Medicine, the American Society of Parasitologists, the Washington Academy of Sciences, the American Association for the Advancement of Science, the Biological Society of Washington, the Helminthological Society of Washington, of Sigma Xi, of Phi Beta Kappa, of Beta Theta Pi, and of the Cosmos Club. He was at one time or another president of the American Microscopical Society and the Helminthological Society of Washington, vice president of the Washington Academy of Sciences, secretary-treasurer of the American Society of Tropical Medicine, councillor of the American Society of Parasitologists, associate editor of the Journal of Parasitology, and delegate to the Seventh International Zoological Congress, the first Pan American Scientific Congress, and the Fourth Fisheries Congress.

Doctor Ransom was a man who had many friends and no enemies. He was uniformly courteous and gentle in the face of many troubles and burdens. In his death the world has lost a valuable scientist who has returned to it many times what he received from it, and his friends have lost a friend who was always considerate and helpful.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is it possible to see a vitamin?

Answer. No satisfactory evidence has been obtained that any one of the five known vitamins has ever been isolated in a pure condition. Consequently no one knows what a vitamin looks like or what its nature is. Up to the present time investigations carried on to isolate the vitamin have been based on the assumption that it is a definite chemical compound. Research along this line is being carried on by a number of scientists, and investigations have reached the stage where it is possible, by the elimination of some of the inert substances associated with vitamins in foods, to obtain a product having a highly concentrated vitamin content

Question. What causes some containers of canned foods to swell?

Answer. The contents of the can have not been cooked at a sufficiently high temperature to kill all bacteria. After the food has cooled the bacteria begin to grow, cause fermentation, produce gas, and consequent swelling of the container. Food in swelled cans should be discarded as unfit for consumption.

Question. In purchasing sausage or sausage meat in the market or grocery what guaranty has the consumer or purchaser that the ingredients are wholesome?

Answer. The mark of inspection on sausage or on the container is the best evidence that the sausage was prepared under sanitary conditions and was wholesome at the time of preparation.

Question. What success is being had with the 100 per cent introduction of pure strains of cotton coming to one gin?

Answer. The establishment of one-variety cotton gins is a feature of the new system of community production which makes possible a wider utilization of superior varieties of cotton. To keep cottonseed pure and uniform, it is necessary to avoid the mixing of seed of different varieties at public gins. The cleaning of the gin machinery between different operations is often impracticable, as well as difficult and costly, so that the simplest, cheapest, and most effective way to avoid gin mixing is for the community to grow only one variety of cotton. With the seed kept pure, the community produces commercial quantities of uniform, high-quality fiber which

brings higher prices in the market. The system of community production is described in Farmers' Bulletin No. 1384.

Secretary Dismisses Packer Merger Case

(Continued from page 1)

one packer of the physical assets of another and that the question seemed to be whether out of such a transaction would flow conditions or actions which would come within the prohibitions of the act. Neither he, the President, nor the Attorney General felt, he stated, that they should express an opinion in advance on the matter.

On December 30, 1922, J. Ogden Armour, acting for himself and in behalf of Armour & Co., of Illinois, entered into a written contract with Morris & Co. to acquire all the physical assets, business, and good will of Morris & Co.

Complaint Issued in 1923

After the Armour-Morris contract was entered into, Secretary Wallace issued a complaint on February 17, 1923. Whereupon, on March 24, 1923, J. Ogden Armour and the North American Provision Co. entered into a supplemental written agreement with Morris & Co. and all of its stockholders for the sale of the physical properties, business, and good will of Morris & Co. and its subsidiaries to the North American Provision Co., a subsidiary of Armour & Co. This agreement modified the original agreement of December 30, 1922, by providing, among other things, that no stock or share capital owned in whole or in part by Morris & Co. should be transferred to Armour & Co. or its nominee, the North American Provision Co. This provision in the supplemental agreement eliminated from consideration the transfer of stock that was touched upon in the complaint. The purchase was consummated on March 28, 1923, since which time Morris & Co. has not engaged in the meat-packing business.

On April 23, 1923, the respondents filed an answer in which they specifically denied that they had violated or were violating any of the provisions of the packers and stockyards act, and further setting up as an affirmative defense that the purchase was made in good faith and as an economic and industrial necessity.

Hearings were held from time to time at Kansas City and Chicago from April 30, 1923, to October 31, 1924, making a record of more than 12,000 pages and several hundred exhibits. Proposed findings on behalf of the Government and the defendants were submitted to Howard M. Gore, who had then become Sec-

retary of Agriculture, in January and February, 1925. Oral arguments were offered before Secretary Jardine from April 6 to April 11.

Packing Plant Not Public Utility

Secretary Jardine's opinion is a document of nearly 3,000 words, in which he states that it is his "understanding that the cases involving the merger of competing railroad systems or the acquisition by corporations of the stock or share capital of competitors in violation of the express prohibition of section 7 of the Clayton Act are not applicable to this case. It undoubtedly is true that the Supreme Court has distinguished between combinations of public utilities and combinations of industrials, holding combinations of the former class to be unlawful without regard to the purposes of their formation or their effect on competitive conditions generally. While the packers and stockyards act apparently classes stockyards as public utilities, it has not impressed the packing business with a public use, and combinations of packers are to be treated as industrial combinations.

"After careful consideration of the entire record and the arguments of counsel, I find and conclude that the evidence is insufficient to sustain the charges made in the complaint, and therefore this proceeding is dismissed without prejudice, and it is so ordered."

NUMERICAL WOOL GRADES PLANNED

G. T. Willingmyre sailed last Saturday on the steamship *America* for England to confer with officials of the British Wool Federation regarding the correlation of the average Bradford grades and the official wool grades of the United States. As a result of this mission it is hoped to establish numerical wool grades which will be a refinement of the present official grades.

Mr. Willingmyre will also go to France, Belgium, Germany, and Italy to interview members of the wool trade and textile manufacturing industries regarding the proposal to inaugurate the issuance by the International Institute of Agriculture at Rome of a current report on stocks and consumption of wool in the leading wool-consuming countries of the world.

Indorsement of the plans outlined above has been received from producers, dealers, and spinners and from the National Association of Worsted and Woolen Manufacturers and the National Association of Worsted and Woolen Spinners. The Pacific Wool Growers and the Ohio Wool Growers have also sent in written approval of the plans. Clippings received from the foreign press indicate a favorable attitude toward the proposal to collect and distribute more accurate world wool statistics.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

MIXING FERTILIZERS AT HOME

Apparently where the price per unit of fertilizer in factory-mixed goods is approximately as cheap as in materials the American farmer is inclined to use factory-mixed fertilizer rather than to home mix his materials. (A unit is 1 per cent of a fertilizer ingredient per ton, or 20 pounds.) In some parts of the country large amounts of simple materials are used without admixture. However, where a distinct saving can be effected there will always be many farmers who desire to mix their own fertilizers. This may be due to the necessity for economy or to a natural desire to cut overhead expense wherever possible. In addition, some individuals want to home mix just to learn the game and for the joy of doing things themselves, with little thought of profit. Thus the people interested in home mixing range all the way from the small farmer who has to make every cent count to the large estate owner to whom agriculture is a game to be played for pleasure, but who wants to know all about agriculture and wants his pleasure to cost him as little as possible.

The department finds the interest in home mixing to be very widespread, and it sends out information regarding fertilizer materials, methods of mixing, sources of materials, and prices to inquirers from all over the country. Experiments of the Bureau of Soils indicate that home-mixed fertilizers, composed of standard materials and put together according to instructions, are just as well and uniformly mixed as factory goods; also that it is possible to make complete mixtures in spare time in the winter, store them in ordinary barn storage, and find them in satisfactory condition for use in the spring.

The present tendency toward concentrated fertilizers, with a presumably lower freight-rate per unit, will probably cause renewed interest in home mixing in localities where there are cheap local supplies of low-grade fertilizer materials to mix with the higher priced high-grade goods shipped in.

In many localities there are undeveloped resources in fertilizer materials, some natural deposits and some unused by-products of industry. The department is always glad to hear of such materials and to give its opinion regarding their value as fertilizer. Where the in-

terest is sufficiently general, analyses are made of the materials to show their exact value as fertilizer and no charge is made for this service. The department, however, does not analyze samples of soil to determine its fertilizer requirement or samples of mixed fertilizers.

WITH EXTENSION FORCES

HOUSE FURNISHING TOURS

Volunteer local leaders from 22 communities in Sedgwick County, Kans., met early last year with the home demonstration agent, Ethel McDonald, and the State household management specialist, Mrs. Harriet W. Allard, for training in phases of household management. Afterward the local leaders held meetings in their own communities to which their neighbors came for similar training.

During the season about 200 women put into practice one or more of the suggestions obtained in this way. As a means of showing the results and possibilities of the work, a series of three tours was planned to include homes in which typical new features had been applied. Care was taken to keep the number of stops on the tours small, both for convenience and to afford the visitors sufficient time to study what had been accomplished and how it had been done.

Visits were made to three homes on the first day, followed by a showing of motion pictures. At the first home an exhibit of homemade rugs was seen. These were hooked, braided, or crocheted. The hostess also gave a fireless-cooker demonstration. She told in detail the cost of her materials, manner of construction, and methods she used in operating her cooker. Hot food was served to the guests from the cooker.

An exhibit of furniture was found at the second home. The hostess showed a set of chairs, one of which she had refinished in the training group under the direction of the State specialist, one she had used in giving the demonstration to her local community club, another she had refinished at home alone, and one was not yet refinished. An old secretary which had been newly varnished was also seen.

Block printing on curtains, table covers, and other household linens was exhibited at the third stop. The motion pictures on home conveniences followed, shown at a community church.

The second day's tour started with a visit to an exhibit of hand-made rugs, block printing, and lamp shades assembled at a school building.

An old-fashioned sideboard from which the high mirror and many shelves, both

large and small, had been removed, was seen at the second stop. The old varnish had been removed and the wood waxed. Some pieces discarded in the remodeling, which retained the old finish were shown in contrast, together with a photograph taken before the elaborate trimmings had been removed.

This day's tour concluded with a stop at a new home to study the finishing of woodwork and floors. An old bed and a dresser, both of them remodeled and refinished, were shown. The third day's tour, in another part of the county, included features similar to those of the preceding days.

One hundred women took part in the tours, and a number of men joined the party from time to time. What was considered a worth-while feature of the occasion was the enjoyable get-together of the different communities.

"Name-the-farm-home" campaigns have been carried on by the Tennessee extension service for the past two years in connection with home-improvement activities. So general has been the interest in the idea that the last State legislature passed an act which provides for the registration of these names with the State department of agriculture. The act provides that the names shall be recorded alphabetically by county in books to be kept for that purpose in the office of the department, any individual name to be used but once in a county.

Over 3,000 farms located in all parts of the State have been named during the time and a sign bearing the name put in place at each home. In one county, Hamilton, 420 farm homes were named during the first year. A half column in the newspapers gave the new names which had been adopted each week, with the location of the farms and the names of the owners. A number of unusually attractive signs were designed and given appropriate settings. Ornamental plantings about the homes and porches fitted for use as living rooms were features of the home-improvement work closely allied to the naming of the home.

At the hearing held in Montgomery, Ala., September 2 to 5, before Commissioner Eastman, of the Interstate Commerce Commission, on the freight rates on fertilizer in the Southeast, the department was represented by Dr. R. O. E. Davis, of the Bureau of Soils. Information was furnished on the history and growth of the fertilizer industry in the United States and on the production and consumption of fertilizers, special reference being made to the use of fertilizers on cotton in the South.

BRIEF REVIEWS OF NEW BULLETINS

The Efficiency of the Short-Type Refrigerator Car. By R. G. Hill, associate horticulturist, W. S. Graham, junior physiologist, and R. C. Wright, associate physiologist, office of horticultural investigations, Bureau of Plant Industry. Pp. 28, figs. 11. August, 1925. (Department Bulletin 1353.) Price, 5 cents.

The so-called "short" refrigerator car, which is about 3 feet shorter than the United States standard refrigerator car, will satisfactorily refrigerate 294 or 315 crates of celery. This was demonstrated in tests conducted by the department in cooperation with growers and receivers of celery and railroads and refrigerator-car lines. Celery was used in the tests for the reason that complaints against the short car came largely from shippers of celery and also because it is difficult to refrigerate. The bulletin is based on the results of these tests and discusses the results and conclusions reached.

Sorghum Smuts and Varietal Resistance in Sorghums. By George M. Reed, curator of plant pathology, Brooklyn Botanic Garden, formerly pathologist in charge of cereal smut investigations, office of cereal investigations, Bureau of Plant Industry, and Leo E. Melchers, plant pathologist, Kansas Agricultural Experiment Station, and agent, office of cereal investigations, Bureau of Plant Industry. Pp. 56, pls. 10. August, 1925. (Department Bulletin 1284.) Price, 15 cents.

Sorghums, like other crops which are extensively cultivated, are subject to many diseases. The sorghum smuts, however, are generally recognized as the most destructive diseases of sorghum, and much attention has been given to them in order to determine their life histories and methods of controlling them. The primary purpose of the investigations described in this bulletin was to determine the behavior of the different varieties of cultivated sorghums with reference to their susceptibility or resistance to the covered kernel smut and the head smut. The conclusions are given in this bulletin.

Report of the Virgin Islands Agricultural Experiment Station, 1924. Pp. 19, figs. 8. July, 1925. Price, 10 cents.

A brief account is given of progress in experiments with sugar cane (breeding and culture, including the use of paper mulch), sweet potatoes (manuring and culture), forage plants (Bonavist and mung beans, butterfly pea, vetch, and alfalfa), and other field crops; with garden vegetables (especially to encourage their growth in greater variety and quality for home use and market), melons, and fruits (oranges, limes, figs, papayas, roselle, and pineapples); and with forest plantings; and of efforts to improve native cattle and poultry and to encourage beekeeping. The report also gives an account of extension work on the island of St. Thomas, a meteorological summary for the year, and notes on the history of the sugar-cane industry in St. Croix. The rainfall of the year (35.44 inches) was 7 inches in excess of that of the previous year, and though less than normal was more favorable for crop growth.

ADDITIONAL PUBLICATIONS

A Bibliography of the European Corn Borer (*Pyrausta nubilalis* Hbn.). By J. S. Wade, associate entomologist, cereal and forage insect investigations, Bureau of Entomology. Pp. 20. September, 1925. (Miscellaneous Circular 46.) Price, 5 cents.

Soil Survey of Henry County, Tenn. By Robert Wildermuth, A. T. Sweet, and L. L. Brinkley, of the U. S. Department of Agriculture, and H. E. Hamilton, E. S. Perry, and J. H. Agee, of the Tennessee Geological Survey. Pp. 42, pls. 7. July, 1925. (From F. O. Soils, 1922.) Price, 25 cents.

Soil Survey of Tucker County, W. Va. By S. W. Phillips. Pp. 37, fig. 1, pl. 1, map. (From F. O. Soils, 1921.) Price, 15 cents.

Service and Regulatory Announcements. Bureau of Biological Survey, No. 64. Hunting migratory game birds on Big Lake Reservation, Arkansas. September, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of August 31-September 5, 1925. Copies of these publications may be obtained from the stations issuing them:

The Illinois system of permanent soil fertility in the light of twenty-five years of investigation. L. H. Smith. (Illinois Sta. Circ. 298, 12 figs. 7. July, 1925.)

Diseases in Illinois seed corn as found in the fifth utility corn show. B. Koehler and N. A. Pettenger. (Illinois Sta. Circ. 299, pp. 8, figs. 4. July, 1925.)

Merced County soils. R. S. Smith, E. E. DeBark, F. C. Bauer, and L. H. Smith. (Illinois Sta. Soil Rpt. 29, pp. 64, pls. 2, figs. 6. June, 1925.)

Soy bean oil meal in rations for laying pullets. A. G. Phillips and S. M. Hauge. (Indiana Sta. Bul. 293, pp. 20, figs. 9. May, 1925.)

The home refrigerator. E. H. Parritt. (Indiana Sta. Circ. 124, pp. 12, figs. 5. May, 1925.)

Feeding the dairy cow. H. P. Davis. (Nebraska Sta. Circ. 29, pp. 29, fig. 1. July, 1925.)

Dairy calf care and management. H. P. Davis and R. F. Morgan. (Nebraska Sta. Circ. 30, pp. 31, figs. 8. July, 1925.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and E. H. Wheeler. (Massachusetts Sta. Met. Bul. 440, pp. 4. August, 1925.)

Fungus infection of seed corn kernels and the importance of germination tests. C. W. Edgerton and A. F. Kidder. (Louisiana Sta. Bul. 193, pp. 24, figs. 5. July, 1925.)

Variations within and between morphological varieties of oats and barley. R. G. Wiggins. (New York Cornell Sta. Mem. 94, pp. 35, figs. 4. July, 1925.)

SEPTEMBER 8-12, 1925

Control of bacillary white diarrhoea, 1924-25. F. E. Brandfield. (Massachusetts Sta. Control Bul. 31, pp. 7. July, 1925.)

Thirty-seventh annual report of the director of the (Rhode Island) Agricultural Experiment Station [1924]. B. L. Hartwell, pp. 14.

Biology and control of Comstock's mealybug on the umbrella catnip. W. S. Hough. (Virginia Sta. Tech. Bul. 29, pp. 27, figs. 13. Feb., 1925.)

Articles in Current Publications
by Department Workers

Black, F. C. (Chemistry). Definitions and standards. *The Macaroni J.*, vol. 7, no. 4, Aug. 15, 1925.

Brown, H. R. (Chemistry). Dust explosions in industrial plants. *Ind. Eng. Chem.*, vol. 17, no. 9, Sept., 1925.

Clark, J. A., and J. H. Shollenberger. (Plant Industry and Agr. Econ.); Comparative value of Kota and Marquis wheats for milling and bread-making. *Modern Miller*, Sept. 9, 1925.

Darrow, G. M. (Plant Industry). Currant and gooseberry values and substitutes. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 96-106. 1925.

Frishie, W. S. (Chemistry). Uniform labeling of beverages. *Beverage J.*, vol. 61, no. 8, Aug. 15, 1925.

Gravatt, G. F. (Plant Industry). Status of the chestnut blight. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 77-84. 1925.

Hahn, G. G. (Plant Industry). Methods of identifying blister rust by inoculating Ribes in the greenhouse. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 70-71. 1925.

Holmes, W. C. (Chemistry). The spectrophotometric identification of dyes. III. Basic violets of the triphenylmethane group. *Ind. Eng. Chem.*, vol. 17, no. 9, Sept., 1925.

Kempson, F. E. (Plant Industry). Barberry eradication as a method of reducing stem rust losses of small grains. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 36-60. 1925.

Meier, F. C. (Plant Industry). Extension work in plant pathology. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 64-66. 1925.

Metcalf, H. (Plant Industry). Certain research activities of the office of forest pathology. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 67-69. 1925.

Piper, C. V. (Plant Industry). Las gramíneas forrajeras más importantes. *Hacienda*, vol. 20, pp. 259-264. Illus. September, 1925.

Sharr, C. L. (Plant Industry). Outline of work of office of plant disease survey and pathological collections. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 62-63. 1925.

Smith, L. E. (Entomology). Status of the Japanese beetle in 1924. *Journal of Economic Entomology*, vol. 18, No. 4, pp. 616-620. August, 1925.

Snow, S. J. (Entomology). Observations on the cutworm, *Euxoa auxillaris* Grote, and its principal parasites. *Journal of Economic Entomology*, vol. 18, No. 4, pp. 602-609. August, 1925.

Stevens, N. E. (Plant Industry). The life history and relationships of *Diplodia gossypina*. *Mycologia*, vol. 17, pp. 191-201, pl. 20. September-October, 1925.

Swingle, C. E. (Plant Industry). Heavy losses follow late stratification of plum and cherry seeds. *National Nurseryman*, vol. 33, pp. 197-200. Illus. August, 1925. Reprinted. *American Nurseryman*, vol. 42, pp. 58-59. September, 1925.

Wackerman, A. E. (Forest Service). Minnesota's only hemlock gone. *Journal of Forestry*, July-August, 1925.

Wahlberg, W. G. (Forest Service). Forestation research in Montana and North Idaho. *Journal of Forestry*, July-August, 1925.

Wyman, L. (Forest Service). Spanish moss. *American Forests and Forest Life*, August, 1925.

Spaulding, P. (Plant Industry). Longevity of blister rust, teliospores, and sporidia. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 72-73. 1925.

Notes on other matters pertaining to the office of forest pathology. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 74-76. 1925.

Taylor, W. A. (Plant Industry). The work of the Bureau of Plant Industry. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 80-88. 1925.

Turrentine, J. W. (Soils). Potash readily obtainable from American sources. *Manufacturers' Records*, 1925, pp. 69-70.

Waite, M. B. (Plant Industry). Apple cedar-rust control. *Proceedings Annual Blister Rust Conference*, vol. 10, pp. 29-34. 1925.

Abstract of paper presented.

MAILING LIST CHANGES

The mailing lists record section, Office of Information, announces the following changes in the mailing lists of the department:

Lists Established

Key No.	Bureau	Title of list
BEL-----	B. A. E....	Economic Bibliographies.

Lists Discontinued

237-C-----	B. of D....	Milk Commissions.
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William Riddett, professor of agriculture, University College, Auckland, New Zealand, visited the department recently to obtain information regarding work in extension and agricultural instruction. He hopes to assist in the establishment of similar work in New Zealand.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE AND DOMESTIC ANIMALS

Netherlands. Department van binnenlandse zaken en landbouw. Directie van den landbouw. Rullverkeveling. Bedrijfsuitkomsten in den landbouw in 1923. Waarde van de Nederlandsche bodemproductie in 1923. 's Gravenhage, 1925. (Netherlands. Department van landbouw, nijverheid en handel. Directie van den landbouw. Verslagen en mededeelingen, 1923, no. 2.)

Poultry farm and garden annual. 1925. New York, 1925.

HORTICULTURE AND FORESTRY

Aguilo, Isidoro. La renovación cultural del olivo en Mallorca. Tortosa, Sanchis y Rovira, 1925.

Cochet-Cochet, Ch., and Mottet, S. Les rosiers. 5. éd. Paris, O. Doin, 1925.

Brown, C. E. The trees of the campus. Prepared for the use of students. University of Wisconsin, summer session. Madison, Wis., 1925.

Mayr, Heinrich. Waldbau auf naturgesetzlicher Grundlage. 2. Aufl. Berlin, P. Parey, 1925.

Tortosa, Spain. Estación olivarrera. La poda racional del olivo. 3. éd. Tortosa, 1924.

World's forestry congress, Rome, 1926. Regulations and programme. Rome, Committee of the International forestry congress, International Institute of agriculture, 1925.

MAPS

Dake, C. L. Interpretation of topographic and geologic maps, with special reference to determination of structure. New York, McGraw-Hill, 1925.

ADVERTISING

Blackman company. An advertising survey of the farm market. New York, 1924.

CHEMISTRY

Holleman, A. F. A text-book of organic chemistry. 6th ed. New York, J. Wiley, 1925.

FOOD

Bullöt meat process company, limited. Memorandum regarding the Bullöt meat process. Sydney, 1918.

Woman's world cookery calendar of tested recipes. Chicago, 1925.

NATURE STUDY

Ross, R. C. School nature study. v. I. Pasadena, 1925.

ZOOLOGY

Wiemann, H. L. General zoology. 1st ed. New York, McGraw-Hill, 1925.

Yerkes, E. M., and Learned, B. W. Chimpanzee intelligence and its vocal expressions. Baltimore, Williams and Wilkins, 1925.

ENTOMOLOGY

Borchert, Alfred. Die seuchenhaften Krankheiten der Honigbiene. Berlin, R. Schoetz, 1924.

PHYSIOLOGY

Douglas, C. G., and Priestley, J. G. Human physiology. Oxford, Clarendon press, 1924.

Ellenberger, Wilhelm. Lehrbuch der vergleichenden physiologie der haussäugetiere. 3. Aufl. Berlin, P. Parey, 1925.

MEDICINE AND PHARMACY

American medical association. Council on pharmacy and chemistry. Glandular therapy. Chicago, 1925.

Marlindale, William. The extra pharmacopoeia of Marlindale and Westcott. 18th ed. London, H. K. Lewis, 1924.

BOTANY

Arvet-Touvet, Casimir. Notes sur quelques plantes des Alpes. Grenoble, Rigaudin, 1883.

Imperial bureau of mycology, Kew. Mycologists resident in the British Empire, 1925. [London? Oxford university press] 1925.

São Paulo, Brazil. Museum paulista. Seção de botânica. Album, por F. C. Hoehne. São Paulo, 1925.

ECONOMICS AND STATISTICS

Associazione fra le società italiane per azioni. Statistical abstract for Italy. 1925. Roma, 1925.

Bihlman, Alfr. Latvia's national wealth. Riga, B. Lamey, 1925.

Buenos Aires (Province). Dirección general de estadística. Economía rural, agricultura y ganadería. La Plata, 1923.

Chicago. University. School of commerce and administration. Training for business, meat packing, business teaching, secretarial work, 1924/25. Chicago, 1925.

Ernie, R. E. P., baron. The land and its people; chapters in rural life and history. London, Hutchinson, 1925.

International labor office, Geneva. The International labour organisation and agriculture. Geneva, 1924.

Redonet y López Dórga, Luis. Crédito agrícola. Madrid, Calpe, 1924. (Biblioteca agrícola española ser. 3, no. 5.)

Salazar Moulida, Zacarías. Valoración agrícola y catastro. Madrid, Calpe, 1922. (Biblioteca agrícola española, ser. 3, no. 2.)

REFERENCE BOOKS

The Dawson little red book. [A directory of newspapers.] 31st ed., 1924-25. London [1924].

Greever, Garland. The Century collegiate handbook. New York, Century co., 1925.

PERIODICALS CURRENTLY RECEIVED

Australian veterinary association. Journal (quarterly). v. 1, no. 1- Mar., 1925- Sydney.

Frutierer's review (monthly). v. 1, no. 2- Aug., 1925- London.

Germany. Reichsamt für landesaufnahme. Mitteilungen. 1925, no. 1- Berlin.

Wild flower (quarterly). v. 2, no. 2- Apr., 1925- Cincinnati, O.

CIVIL SERVICE ANNOUNCEMENTS

Junior agronomist (sugar cane), \$1,860. A vacancy in the Bureau of Plant Industry, for duty at the experiment station, Houma, La., and vacancies in positions requiring similar qualifications, will be filled from this examination unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C., on or before October 10, 1925.

Junior biologist (animal pest extermination), \$1,860. Scientific Aid (animal pest extermination), \$1,500. Vacancies in the Bureau of Biological Survey for duty in Washington, D. C., or in the field and in positions requiring similar qualifications will be filled from these examinations unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Advancement in pay may be made without change in assignment up to \$2,400 a year for junior biologist and up to \$1,860 a year for scientific aid. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C., on or before October 10, 1925.

Forest ranger, \$1,500 to \$2,000. Vacancies in the Forest Service in the States in which this examination is held and in positions requiring similar qualifications will be filled from this examination unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Forest rangers are eligible to promotion to

the maximum salary of \$2,400 in the continental United States and \$3,000 in Alaska as vacancies occur in assignments carrying salaries exceeding the entrance salary stated above and as the appropriation permits. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. The date for the assembling of competitors will be stated on the admission cards sent applicants after the close of the receipt of applications.

Assistant chief warehouse examiner, \$3,800. (Tobacco standardization.) Vacancies in the Bureau of Agricultural Economics, Washington, D. C., or in the field and in positions requiring similar qualifications will be filled from this examination unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., on or before October 27, 1925.

Warehouse examiner, \$3,000; assistant warehouse examiner, \$2,400 (grain, wool, cotton, and tobacco). Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., and in the field and in positions requiring similar qualifications will be filled from these examinations unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$3,600 a year for warehouse examiner and up to \$3,000 a year for assistant warehouse examiner. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 27, 1925.

MOUNTAINS FROM MOLE HILLS

To make photographic enlargements from small motion-picture films which measure only $\frac{1}{4}$ by 1 inch has been an almost hopeless task, so much so that the profession usually answers requests for such work with the statement, "It can't be done."

The value of these enlargements as illustrative material for publications, "stills," and lantern slides has long been recognized. The section of illustrations has tried many schemes advanced by the various photographic magazines with very little success. Mr. Painter, of the photographic laboratory, has finally hit upon a scheme of his own that is producing truly remarkable results. From a sharp motion picture frame $\frac{1}{4}$ by 1 inch he has made enlargements up to 8 by 10 inches that are almost the equal of contact prints.

Heretofore the stumbling block to successful work has been the granular appearance of the enlargements, which had the appearance as though some one had been throwing sand, caused by the enlargement of the microscopic silver grains in the film.

By a selection of the proper paper suited to this work, a careful adjustment of the lights, and a clever manipulation of screens this difficulty has been overcome.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., SEPTEMBER 30, 1925

No. 39

CHEMICAL ACHIEVEMENT SHOWN BY DEPARTMENT

Eight Bureaus Assemble Exhibit for Display at National Exposition

The department's recent achievements in agricultural chemistry and other contributions to modern chemical knowledge are being portrayed by an extensive exhibit of small working models, apparatus, samples, illustrative panels, and motion pictures at the Tenth National Exposition of Chemical Industries, being held this week in the Grand Central Palace, New York City. The exhibit includes contributions from various laboratories and divisions of the Bureaus of Chemistry, Soils, Animal Industry, Dairying, Plant Industry, Agricultural Economics, Biological Survey, and Public Roads. The offering from the department comprises a sizable part of the exposition, 1,100 square feet of floor space having been donated by the management for its display.

Progress in Solving Chemical Problems

The national exposition reflects the progress made and being made in solving chemical problems in all of the industries and professions. It is attended by manufacturers and dealers, by professors and college chemists, laboratory workers, scientists, practicing physicians, and the general public.

By the very nature of things much of the achievement of the chemists in the department is of necessity shown only by the samples of the products which they have developed. For instance, contributions from the Bureau of Chemistry to the court of chemical achievement include samples of furfural, a product made from corncobs and used in the manufacture of synthetic resins suitable for electrical instrument parts, printing plates, and various molded articles. Furfural also finds use as a solvent and as a paint and varnish remover.

Another achievement is illustrated by several desiccators of lemons, which serve to call attention to a new method developed by department chemists for the purpose of improving the color of lemons and other citrus fruit. Mature lemons green in color are brought to the desired yellow color by subjecting them to ethylene gas which is used in the newly developed coloring process.

Grain Fumigant Exhibited

A sample of a grain fumigant constitutes another achievement. This particular fumigant, non-inflammable, was developed in the Bureau of Chemistry in collaboration with the Bureau of Entomology, as a substitute for the inflammable carbon-disulphide fumigant which has been used so extensively in the control of weevils and other insects in stored grain. The new product is a mixture of ethyl acetate and carbon tetrachloride. The fumigant ready mixed is now obtainable at a price which figures to less than one cent per bushel of fumigated wheat when applied in an elevator.

Invertase, a sample of which is shown, is a yeast-extract product developed primarily for use in preventing crystallization in sugar-cane sirup and sorghum sirup. Invertase is also extensively used in the confectionery industry in the manufacture of fondant types of candy.

Cassina, a beverage developed in the Bureau of Chemistry, is displayed in various sample forms. It is made from the cassina plant which grows naturally and luxuriantly mostly on poor sandy soil along the coasts of the Southern States. Besides being used like tea and coffee it has been found that excellent sirups to be used at soda fountains and in bottled carbonated drinks and also excellent flavoring extracts can be produced from the cured leaves of the plant. The flavoring sirups made from cassina possess the four requisites for a perfect soft drink, namely the characteristic taste, a characteristic color, a naturally foaming propensity, and a sufficient

(Continued on page 3)

TROPICAL AMERICA ADAPTED TO RUBBER

Its Production Practicable With Development of Proper Methods, Study Shows

On account of the advancing prices of rubber, and the danger involved in being so completely dependent upon the remote East Indies for an essential material, many inquiries are being received by the Bureau of Plant Industry regarding possibilities of producing rubber in adjacent regions of tropical America. The earlier failures with rubber plantations in tropical America show the need of caution, but afford no reasons for believing that production is not practicable if methods adapted to the local conditions are developed and applied.

Para Preferable to Native Rubber

In Mexico and Central America, the native rubber trees, *Castilla elastica* and several related species, were used in the earlier plantations, but *Castilla* does not respond to continuous tapping like the Hevea or Para rubber tree of Brazil, which proved successful in the East Indies. Hevea plantations were attempted in Guiana and Trinidad, but the seedlings were attacked by a parasitic fungus. The disease apparently is confined to the range of the wild Hevea in South America, and is not likely to interfere with planting in the West Indies or in Central America, if the fungus is kept out by bringing no seeds or plants from infected regions.

Experiments are now being made with Hevea and other tropical rubber plants in southern Florida, Haiti, and the Canal Zone by the Bureau of Plant Industry, to determine the range of adaptation of the different species. The northern limit for Hevea is still unknown. A small planting near the north coast of Haiti, now about 20 years old, has grown well and produces good rubber. The flow of latex is greatly

reduced in the winter months, but a resting period does not injure the trees. Correspondents in Mexico, Cuba, or Porto Rico are encouraged to make small plantings in sheltered places where the native vegetation does not suffer too severely from drought. Since the seeds of Hevea are perishable, it is the more important to have local plantings for seed production, as well as to determine the behavior of the tree.

Special Methods for Each Variety

Several small plantings of Hevea were made in Central America about 20 years ago with Castilla plantations that later were abandoned, and also a few larger plantings of Hevea in southern Mexico that may become centers of further development and furnish supplies of seed. The Hevea trees appear to have grown well, even where completely neglected, though they have not been tapped by suitable methods to determine the yields of rubber. Very little latex is obtained from Hevea by the methods of tapping that are used for Castilla. Such attempts may give rise to reports that the Hevea trees do not contain rubber.

Experimental tapping has been done recently in Haiti by the Bureau of Plant Industry, and the production of individual trees recorded for several months, showing yields like those of the East Indian plantations, but with a shorter tapping season. Tests by the Bureau of Standards have determined that the rubber is of good quality. Labor is abundant in Haiti, and the production of rubber may be feasible, but the fertile districts are densely populated and do not afford large tracts of unused land for plantation enterprises. Smaller units might be organized, and production by native farmers encouraged, or plantation areas might be found in the adjacent Dominican Republic. The trees may be expected to thrive as well or better in many districts in Central America or in southern Mexico. In some districts labor is obtainable and might be adequate for a gradual plantation development, if too rapid expansion were avoided.

Field for Mechanical Inventions

Like sugar and starch, rubber is obtainable from many species of plants, be-

longing to different families and adapted to different conditions, not only in the humid tropics but in temperate or dry regions. Some of the tropical species grow well in Florida, and some of the dry-country species in California. With suitable methods of extraction it might be possible to produce rubber from Castilla or from some other plant more rap-

should increase as rapidly as in the United States. Higher prices are stimulating a further plantation development in the East Indies, under the system of oriental contract labor, and in some districts the natives also are planting rubber. Modified plantation systems, without contract labor, probably can be worked out that will prove profitable in tropical America, but claims of assured income from stock-selling promotions are always to be distrusted.

On account of the necessity of adjustments to meet local economic conditions, the outlook in tropical America is better for undertakings by resident landowners than for the more costly projects of nonresident investors. Correspondents are advised not to engage or to place investments in tropical enterprises without a preliminary visit to ascertain the local conditions and risks. Detailed information has been published by the Department of Commerce regarding many of the features that determine the practicability of rubber production in tropical countries, and this information should serve as a basis for further investigation of the particular regions where investments are contemplated.

Arrangements have been made by the department with the South Carolina extension service and Clemson College for a study of South Carolina cotton markets to ascertain to what extent differences in qualities are recognized in the country markets by local buyers. The study will be financed mainly with funds available under the Purnell Act. Tentative plans provide that the local college will collect information as to prices in a number of selected markets and gather samples of cotton actually sold at these prices. The department will class the samples so collected as a basis for comparing prices paid with the qualities sold.

The Indianapolis Unity Club held its regular monthly luncheon meeting at the Chamber of Commerce Monday, September 14, 1925. President H. A. Rhoades presided and Frank R. Owen, secretary to the city traffic department, was the guest of the club. Mr. Owen spoke to the club of the work being done by his department to prevent accidents and facilitate the movement of traffic. His address was interesting and instructive.

NATIONAL FIRE PREVENTION WEEK—1925

BY THE PRESIDENT OF THE UNITED STATES

A PROCLAMATION

The time has come for the annual resurvey of the Nation's enormous wastage, alike in human life and in property, and for the annual appeal for the lessening of this huge loss. I am informed that during 1924 fires caused the loss of approximately 15,000 lives, and of property exceeding \$548,000,000 in value. The figures are startling; they are yet more so when it is added that this is declared by competent authorities the greatest fire loss in any year of our history.

This waste results from conditions which justify a sense of shame and horror; for the greater part of it could and ought to be prevented. Not only was the 1924 fire loss greater than that of any preceding year, but the loss for the first half of 1925 exceeded that for the like period of 1924. As a result of careful inquiries, I am informed that whereas the absolute as well as the per capita fire loss of this country tends to increase from year to year, the same losses in comparable European countries tend to decrease. For the most recent comparable periods fire losses in Great Britain are calculated at less than \$1 per capita per annum, while those of the United States are placed at approximately \$5 per capita. Comparisons with other European countries are similarly to our discredit.

It is highly desirable that every effort be made to reform the conditions which have made possible so vast a destruction of the national wealth. To this end, for a long time past it has been customary to set aside a week in each year, during which the need of fire prevention may be emphasized. It is important that this practice be continued.

Therefore, I, Calvin Coolidge, President of the United States, recommend that the week beginning Sunday, October 4, be observed as National Fire Prevention Week. To State and municipal officials, civic organizations, school authorities, and all citizens and organized bodies, I appeal for the fullest cooperation in improving conditions. There is need for earnest study of the principles of fire protection, as a practical measure of national economy.

In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done in the city of Washington on this 11th day of September, in the year of our Lord one thousand nine hundred twenty-five, and of the Independence of the United States of America the one hundred and fiftieth.

[Seal.]

CALVIN COOLIDGE.

By the President:

FRANK B. KELLOGG,
Secretary of State.

idly or with less labor than from Hevea. The possibilities of different systems of production are being investigated in the United States and in foreign countries. A large field of experimental interest is open for mechanical inventions or plant improvements, to facilitate the production of rubber.

The price to be expected in the future is one of the chief factors in judging the feasibility of any new undertaking that may be projected. A serious shortage may be felt in a few years if the use of rubber in other parts of the world

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

STUDY RATES ON AGRICULTURAL LOANS

Some of the factors responsible for the wide variation in the interest rates charged on agricultural loans in different parts of the country are indicated by a study of credit information recently gathered by the department. Rates are much lower in the East and Central West than in the South and West. On loans based on personal and collateral security the variations are often wider than in the case of mortgage loans. In general, interest rates appear to vary with the risk that the lender takes and with the local supply of loanable funds, although the distance of a region from financial centers is less important to-day than it was before the Federal reserve system and the Federal farm loan system provided channels through which funds could freely flow from money centers to points where capital is needed.

NEW FEATURE AT DAIRY EXPOSITION

A new feature of the Government exhibit at the National Dairy Exposition to be held at Indianapolis October 10 to 17 will consist of a special conference room where investigators, farmers, and dairymen will have an opportunity to discuss with specialists of the department new developments and special problems relating to the industry.

WORLD WHEAT CROP LARGER

World wheat production so far as reported this year is 8 per cent larger than the 1924 crop, as indicated by total estimates of 2,852,000,000 bushels for 29 countries, which produce 85 per cent of the world crop outside Russia and China. These countries last year produced 2,634,000,000 bushels.

CHEMICAL ACHIEVEMENT SHOWN BY DEPARTMENT

(Continued from page 1)

amount of the same stimulant that is found in tea and coffee.

The causes of dust explosions in grain elevators and methods for preventing them are called to the visitor's attention by a miniature elevator in which explosions can be produced at will by the operator who illustrates the explosibility

of various kinds of dusts suspended in the air and subjected to an electric spark. A miniature feed mill serves to show the impossibility of exploding these dusts when inert gas is introduced into the dusty atmosphere.

Results with Chemical Fertilizers Shown

The Bureau of Plant Industry contributes an exhibit which shows the results with chemical fertilizers. Comparative yields of potatoes, cotton, wheat, and sweet potatoes are shown by piles of these crops on display tables. One pile in the case of each crop represents the yield secured without fertilizer, a larger pile, the yield obtained through applying fertilizer. In all cases both piles represent the yield from equal areas of land. All cultural operations were the same, showing that the increased yield is due to the fertilizer applied. The piles thus afford a picture by which one can visualize the crop grown as well as actual differences secured by the use of fertilizer.

The Fixed Nitrogen Research Laboratory has erected a model of a synthetic ammonia plant showing the operating arrangement of compressors, piping, converters, and ammonia recovery apparatus. Charts and legends explain to the visitor the methods of making synthetic ammonia in this plant from the atmosphere.

One of the achievements shown by the Bureau of Soils is the method developed for producing phosphoric acid, shown by a small model of the furnace in which phosphoric acid is driven off from phosphate rock and collected for use as fertilizer.

Story of Modern Road Construction

"Bituminous road construction" is the title of the booth in which the Bureau of Public Roads tells the story of modern road construction, showing that modern traffic demands a different kind of surfaced road than the steel-tired wagon and buggy traffic of former days. When the surfaced roads were largely of water-bound macadam, the steel tires of the horse-drawn vehicles wore the corners from the crushed rock in these roads and thus continually supplied a binding material. The soft rubber tires of modern motor vehicles suck the dust binding from macadam roads and it is blown to the four winds. In this way modern traffic rapidly disintegrates water-bound macadam roads. Bituminous materials used as a binder in modern road surfacing prevent disintegration.

The Research Laboratories of the Bureau of Dairying present an exhibit showing the progress made in finding new methods of utilizing the constituents

left in the whey after cheese making. One of the developments is a process by which a soluble whey-protein powder is recovered from the whey. This product has certain physical and chemical properties which should make it valuable in the manufacture of many foods, especially baby foods.

The Biological Survey shows in two photographic enlargements the production of processed strychnine used in the extermination of predatory animals in the United States. An enlarged photograph also shows the method used in placing the poison baits under field conditions.

Bovine T. B. Transmission Step by Step

The Bureau of Animal Industry's contribution consists of a booth illustrating the manner in which bovine tuberculosis is transmitted to a family of children. Enlarged photographs and panels also show the progressive steps of the disease from the tubercular cow, Black Lady, to the commercial creamery and back to the farm in the form of by-products such as skim milk and whey and the dangers these products cause to other livestock on the farm.

The Bureau of Agricultural Economics has developed a new optical method for a quick test of the oil content in flaxseed. The exhibits include a complete working outfit, namely, an experimental flour mill for grinding samples, various products for preparing the sample and the refractometer by which readings are made in operating the test. This new optical test can be made in 12 minutes compared to the usual test which requires about 24 hours.

In addition to the numerous other new developments in agricultural chemistry brought to the attention of the visitors by samples of products, working models, and various kinds of apparatus, eight motion-picture reels are being shown. Three of them, Explosive Dusts, Cassina, and Pure Foods, are from the Bureau of Chemistry. The others which are from the Bureau of Animal Industry are The Honor of the Little Purple Stamp, Sir Loin of T-bone Ranch, The Woolly West, From Wool to Cloth, and Clean Herds and Hearts.

Dr. A. G. Böving, of the Bureau of Entomology, has returned from his trip to Europe, where he spent considerable time studying the collections of beetle larvae in Copenhagen, Stockholm, and the British Museum. He met many of his colleagues and discussed various phases of his work with them, and arranged for large exchanges of adults and larvae of beetles.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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NATIONAL FIRE PREVENTION WEEK

The department is cooperating in every way possible to promote the success of National Fire Prevention Week, proclaimed by President Coolidge to begin October 4. The Bureau of Chemistry and the Forest Service contribute regularly material useful in such a campaign. Material furnished by the Forest Service includes photographs on the subject of fires—such as its causes, resultant waste and devastation, fighting it and preventing it. These photographs, enlarged, are used in magazines and other literature, and on posters.

In connection with the present campaign the Bureau of Chemistry has received numerous requests for and sent dust-explosion films, and literature and pamphlet articles on dust explosions, to chambers of commerce, fire insurance companies, and fire protective associations.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel and business administration, the following employees of the department were retired during the month of August, 1925:

Mr. John Flaner, a carpenter in the Forest Service, at Ogden, Utah, was retired on account of age on August 28, 1925. He was born on August 29, 1858, and was 67 years of age at date of retirement. He has served continuously in this department since August 15, 1905, a period of 20 years and 14 days. Prior to coming to this department he was an enlisted man in the United States Army, serving five years with Troop L of the Eighth Cavalry and three years with Company K of the Tenth Infantry. From February 10, 1892, to August 1, 1905, he was employed at the quartermaster storehouse at San Antonio, Texas, with the War Department, a period of 13

years 5 months and 22 days. His total service governmental and military, at date of retirement amounted to 41 years 6 months and 6 days.

Miss Alva von der Linde, a senior clerk in the Denver, Colo., office of the Forest Service, was retired on account of total disability effective February 3, 1925. Miss von der Linde had served continuously in this department, both in the Washington office and at Denver, since January 2, 1908, a period of 17 years 1 month and 2 days.

Mr. Charles L. Woodman, a principal clerk in the division of accounts and disbursements, was retired on account of total disability effective August 9, 1924. He was born on January 28, 1873, and was more than 51 years of age at date of retirement. Mr. Woodman was employed continuously in this department since November 18, 1912, a period of 11 years 8 months and 2 days. Prior to coming to this department he was employed by the Isthmian Commission at Culebra Canal Zone from April 28, 1906, to November 1, 1912, a period of 6 years

EDUCATIONAL COURSES, 1925-26

Classes in the educational courses of this department will open in the week beginning October 12.

These classes offer opportunity for self-improvement to the department personnel and for increasing the efficiency of the Federal service. Cooperation of the entire staff is asked.

The preliminary announcement was widely circulated on September 19. Any interested person who has not received one should apply to his office chief or to the office of director of scientific work.

Bureau chiefs and office heads are asked to assist by reminding their employees of these classes and in encouraging registration.

Prospective students who have not yet registered for courses desired are urged to do so as promptly as possible in order that the necessary arrangements for teachers and classes may be completed.

6 months and 4 days. His total governmental service at date of retirement was 18 years 2 months and 26 days.

Mrs. Augusta H. Williams, a junior clerk in the Bureau of Plant Industry, was retired on account of total disability on August 25, 1925, after a period of 30 years' governmental service. She was appointed in this department on August 5, 1901, by transfer from the Treasury Department, where she had served in the Division of Loans and Currency from June, 1895, to the date of her transfer.

A CORRECTION

G. I. Christie is the director of the Indiana Agricultural Experiment Station. His name was incorrectly given in THE OFFICIAL RECORD for September 2.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Can you suggest some chemical or practical means for destroying and preventing the growth of cat-tails and other weeds found in ponds?

Answer. One of the most effective ways to kill cat-tails and other common water weeds is to drain the pond in which they grow. When this is done some of the plants die from lack of water and the perennial roots of others can be grubbed out or otherwise removed. If, after draining, the pond basin is found to be partly filled with silt, a plow and scraper may sometimes be used to advantage to remove the silt and to clean out the growth of water weeds also. Where conditions permit, the growing of a cultivated crop in the drained basin will kill many roots of perennial water weeds.

If drainage is not practicable, weeds growing in the water may be held in check by mowing, repeated as necessary. For small shallow ponds a common scythe may be used. For large ponds patented mowing devices are sometimes employed.

Dense stands of cat-tails established on ground which is not under water may be cut, the tops burned, and subsequent growths retarded by killing back new top growth or by removing the roots. In California, plowing in the fall to expose the upturned roots to frost, followed by disking in the spring to aid in drying out the roots, has been recommended as a helpful measure.

The application of chemicals in water in which weeds are growing is not considered a practicable way to destroy plants like cat-tails, whose roots are deeply imbedded in the mud.

Secretary Jardine has been advised by D. K. Grady, secretary of the Dried Fruit Association of California, that this association has appropriated \$1,000 to aid the Bureau of Entomology in its investigation of dried-fruit insects. This action duplicates that taken last year and is an excellent indorsement of the work being conducted by the bureau. Mr. Grady writes: "The association has been very much interested in the investigation as it has developed to date, and is hopeful that the findings during the coming year will prove of material assistance to us in solving our infestation problem."

Seventeen students are in attendance at the hay inspector's school, which opened September 8 at Fort Sam Houston, San Antonio, Tex.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arkansas.—Ruth Mayo has been appointed home-demonstration agent in Arkansas County, to succeed Mattie Melton, resigned.

Colorado.—Eva Floy Smith (now Mrs. Sherman Wheeler), nutrition specialist, has resigned. The Extension Service announces the appointment of Chester A. Lee as specialist in farm forestry, to become effective November 1.

Nevada.—Robert G. Foster, assistant director of the Extension Service, has been granted leave of absence from September 16, 1925, to June 15, 1926.

New Hampshire.—The following specialists have recently been appointed: Ford S. Prince, soils and crops; E. D. Fletcher, forestry; F. L. McGettigan, poultry; and H. A. Rollins, horticulture.

Vermont.—Mary Pozzi has been appointed home-demonstration agent in Chittenden County, to succeed Alice B. Clifford, who has been transferred to New Jersey as home-demonstration agent in Sussex County.

Wyoming.—C. S. Llewellyn has been appointed county agent in Hot Springs County, to take the place of P. T. Fortner, resigned. Mary Rokahr, State leader of home-demonstration work, has been granted a year's leave of absence. F. A. Chisholm, whose appointment becomes effective October 1, will succeed R. J. Allen as county agent of Park County.

Florida.—E. W. Jenkins, who has been district agent since 1917, has resigned to become county agent for Lake County.

Kansas.—M. H. Coe, extension specialist in animal husbandry, has been appointed acting State club leader during the absence of R. W. Morrish, who will spend a year at Chicago University. E. G. Kelly, extension entomologist, has been granted leave of absence for eight months to pursue advanced study at Iowa State College. Maude M. Coe, home demonstration agent for Wyandotte County, has been transferred to Butler County, and L. Maude Finley, millinery specialist, has resigned, effective July 31.

Ohio.—H. C. Ramsower, director of extension, has returned after a year's leave of absence. Bruce Tom has been appointed extension specialist in rural recreation; John S. Crossman, assistant editor in the office of agricultural publications of the extension service, will resign October 1 to become extension news editor in Michigan; and Schuyler M. Salisbury, extension specialist in animal husbandry, will be transferred on the same date to the resident staff in animal husbandry. Joyce Syler has been

appointed home demonstration agent in Mahoning County. D. S. Myer, county agent supervisor for northwestern Ohio, will spend the next nine months at Columbia for graduate work; C. R. Arnold, rural economics specialist, will study at the University of Minnesota for a year; Edna Callahan, specialist in clothing construction, will attend the University of Chicago for six months; and Nancy Folsom, home demonstration agent in Huron County, will go to Columbia for a year for advanced study.

NEW LEGISLATION AND COURT DECISIONS

The circuit court in Cleveland County, Ark., has rendered a decision declaring valid a contract signed by the retiring county judge of that county for the employment of a county agent and a county home-demonstration agent. The county quorum court made appropriations for county extension agents, and the county judge signed contracts with the extension service and the extension agents. The judge who signed the contracts went out of office at the end of the year, and his successor protested the payment of this money.

FORTHCOMING EVENTS

All county quorum courts in Arkansas meet on the fourth Wednesday in October, which this year falls on October 28. At these meetings county appropriations for the employment of county extension workers are considered.

IMPORTANT DEVELOPMENTS

The Ohio Seed Improvement Association has just completed its first plans for the certification of clover and related seeds. Since Ohio grows good clover seed, the officers of the association think it important that the farmers of this State know when they are getting home-grown clover seed. The first work of the association will be to identify home-grown seed and see that it is labeled as such. Large growers may apply for certification, but since the process of certification is nearly as expensive in small lots as in larger ones, most of the certification will be done through dealers.

Forty-five of Ohio's 88 counties sponsored club camps this summer and took care of about 2,500 club members. This is an increase of a dozen over 1924, and of 30 over 1923. Several camps were conducted jointly by two or three counties. Encouraging club members to develop their own means of recreation the leaders feel was the most significant change in the camp programs this year.

The McLean system of hog sanitation has made a definite start in Ohio.

Some of the 18 Butler County farmers who have followed the McLean system this past year told 125 of their neighbors on tour that cleanliness pays. Seven other Ohio counties plan to try out the McLean system this year.

Ten days were recently set aside for Arkansas County agents to bring groups of farmers to the branch experiment station at Scott to study the experimental work in cotton production in progress there. Large numbers of farmers visited this station and studied the work with cotton varieties, cotton spacing, fertilizers for cotton, and soy-bean varieties, which are being conducted there. September 11 was set aside as a day for negroes from all parts of the State to study the work.

A sectional lime campaign conducted in Missouri during the summer has resulted in over a 500 per cent increase in the tonnage of lime used. This campaign was headed up by the soils and crops specialist for southwest Missouri, and county extension agents, teachers of vocational agriculture, farm organization leaders, business men, and other voluntary leaders were enlisted in 22 counties. The campaign closed with a sectional lime conference attended by the leaders, college representatives, county agents, limestone producers, and railroads, at which each county leader reported on the tonnage used this year and last year.

FILMS SELECTED FOR SPECIAL USES

Women and children have not been neglected by the department in its educational film productions and many of the department's 225 motion pictures are designed for showing before them.

Among the films suggested for exhibition before women's meetings are: Out of the Shadows, Clean Herds and Hearts, The Honor of the Little Purple Stamp, Keeping Out Bad Food, Why Eat Cottage Cheese, From Wool to Cloth, Cranberries—and Why They Are Sometimes Bitter, Garden Gold, Anne's Aigrette, The Modern Pied Piper, To Market! To Market!, Food for Reflection, Cured by Canning, A Matter of Form, The Happier Way, Poor Mrs. Jones, and many others.

For boys and girls are recommended: Sir Lacteus, the Good Milk Knight, Home Gardening, Seeing Washington, A Letter to Dad, Bill Jones—Champion, The 4-H Camp for Boys and Girls, A Crop Worth Saving, The Short Course, Good Turns for our Forests, Bob Farnum's Ton Litter, The Embryology of the Egg, the department's game and bird conservation films, forest fire films and scenic pictures.

WITH EXTENSION FORCES

LAUGH AND LEARN

Serio-comic pageants depicting the influence of extension upon the farm have for two years been a feature of the annual farmers' and home makers' week at the University of New Hampshire. This year the pageant, which was staged at Memorial Field, was witnessed by about 3,000 people.

After opening up with some comic play between Mr. and Mrs. Farmer and the hired man, the long-lost daughter. New Hampshire, entered to be received with open arms. When her children—nearly a hundred of them, ragged, barefoot, hungry, and uneducated—appeared, however, it became evident that there was pressing need for money. Help was first sought from Mrs. Cow (part played by one person erect with cow's head, tail, and skirt). When fed with high-priced grain, Mrs. Cow finally yielded a pint of milk. In like manner Mrs. Hen, lame and faint, gave only one egg from her flock. A trip to the apple tree was foiled by the horrid worm, who kept watch there like the mythical dragon and who only permitted half-eaten and low-grade apples to be taken away.

Mr. and Mrs. Farmer were in despair until Ed. U. Kashun with a loaded automobile appeared upon the scene. Ed. U. Kashun presented Mrs. Cow with a bale of alfalfa, whereupon she executed a dance and rolled out a 40-quart jug of delicious creamy milk. He found that Mrs. Hen needed green feed and exercise; when fed with rape she grew greatly in size and produced a whole basket full of eggs. A bomb of spray materials thrown at the head of the horrid worm saved one of the children from its clutches and made possible the sale of thousands of dollars' worth of high-grade fruit.

In similar fashion Mrs. Ed U. Kashun solved the hard problems of Mrs. Farmer, cooking beans for her in magic time with the pressure cooker, bringing a vacuum cleaner and demonstrating ways of making better clothing and of rearranging the kitchen.

Having shown what improved methods could do, Ed U. Kashun insisted that organization was necessary, and turning to the grandstand, called for volunteers. Representatives of cooperating associations and about 500 boys' and girls' club members thereupon rushed out to take up standards and to form a parade around the track.

The pageant was preceded by skits in which county agricultural and home demonstration agents took part, repre-

sented a farm ballet, a dance of the scarecrows and a mock bullfight, giving a title to the whole performance of The Farm Follies of 1925.

The pageant was written and directed by Henry Bailey Stevens, executive secretary of the extension service.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

THE WEATHER BUREAU HELPS THE FLYER

The nature and extent of the meteorological service of the Weather Bureau in aid of aviation interests appear to be less generally understood than some of its other activities. Many persons are surprised to learn, for example, that special accommodations are provided in the forecast room of the Weather Bureau at Washington for representatives of the air services of the Army and the Navy. Telegraphic weather reports come in twice a day to the forecaster from about 275 observing stations in all parts of this country and from Canada. As fast as they are received, these representatives of military flying services copy on their charts any information important to aviators, and telephone the route forecasts directly to certain flying fields. At times special service is asked for and received by fields undertaking some unusual flying feat. The completed charts are taken by automobile or motorcycle to the Bureau of Aeronautics of the Navy and to Bolling Field and are posted for the benefit of the aviators.

Furthermore, the full system of morning and afternoon telegraphic weather reports received at Washington, and the regular and special forecasts, are sent by messenger to the Navy Department and are promptly telegraphed over a Navy leased wire to Lakehurst, N. J., for use by the Navy meteorological officer of that place.

Conditions which are unusual or dangerous for flyers receive prompt attention at the Washington forecasting station and at each of the other four district forecast centers, located at Chicago, New Orleans, Denver, and San Francisco. Weather information, forecasts, and warnings for the group of States comprised within a district are issued from these centers, always with aviation interests in mind. Direct service is given as conditions and facilities warrant. Local service is also rendered by officials at about 135 field stations of the Weather Bureau. It must be borne in mind in

connection with the hazards of flying that the most any meteorological service can do is to give information and warnings; aviators frequently disregard warnings of approaching storms or other poor flying conditions, believing themselves competent to fly in spite of unfavorable weather, just as a ship's captain may put out to sea fully armed with knowledge of bad conditions ahead, but sure of his ability to manage his vessel nevertheless, or hoping for better conditions than those predicted.

Radio service is supplied twice daily for the benefit of marine and aviation interests on the Atlantic and Pacific coasts. Weather bulletins and forecasts are broadcast from the Arlington, Va., Naval Radio Station at 10.30 a. m. and at 10.30 p. m. They consist of reports on surface conditions and upper air data based on the regular 8 a. m. and 8 p. m. observations of the Weather Bureau. These bulletins include any reports received too late for the regular morning or evening forecast and as a second feature summarize general atmospheric conditions, barometric readings at high and low centers, wind and weather forecasts for offshore areas, storm warnings and flying weather forecasts, for each of six aviation zones. During the hurricane season additional ship reports are received by radio from the Gulf of Mexico and the Caribbean Sea and distributed in connection with this service.

Aviators flying in any of the three zones served by the special Pacific bulletins issued from the San Francisco Radio Station receive information about 9 a. m. based on 5 a. m. observations of the same day, and at 7.30 p. m. based on 5 p. m. observations, except for those taken at Alaska, Honolulu, Guam, Manila, China, and Japan, at slightly different hours. These bulletins are in all essential respects like those for the Atlantic coast.

Specific and more detailed forecasts are made each morning and evening for definite flying routes to supplement the zone forecasts distributed by radio. These routes include the model airway and many routes such as Washington to Long Island, Washington to Norfolk, Washington to Dayton, Rantoul to Detroit. In 1924, at the request of the Second Assistant Postmaster General, arrangements were made to provide special forecasts for the transcontinental air-mail service, especially to aid night flying. These forecasts are issued by the district forecaster at Chicago for two sections of the route. One is from Bryan, Ohio, to Omaha, Nebr., and the other is from Omaha to Rock Springs, Wyo. The forecasts and weather information are made available to both east and west bound fliers at Omaha.

BRIEF REVIEWS OF NEW BULLETINS

Effect of Various Factors on the Creaming Ability of Market Milk. By H. A. Whitaker, R. W. Archibald, and L. Shere, of the division of sanitation, Minnesota State Board of Health, and C. E. Clement, Bureau of Dairying. Pp. 24, fig. 1. July, 1925. (Department Bulletin 1344.) Price, 5 cents.

An experimental study of the different methods of pasteurizing, cooling, storing, and handling market milk has indicated that the cream volume varies with various methods of processing sometimes as much as 30 per cent. This bulletin, containing a study of the results of the tests conducted to show the effect of the various milk-plant practices on the cream volume, should be of value to the plant operator in determining how he can best secure a satisfactory cream layer.

Boys' and Girls' 4-H Club Work, 1923. By L. W. Hill and Gertrude L. Warren, field agents, Office of Cooperative Extension Work. Pp. 47, figs. 16. August, 1925. (Department Circular 348.) Price, 10 cents.

Extension work with farm boys and girls was accompanied in 1923 by marked development of leadership and cooperative effort on the part of the young people engaged in it. Another encouraging aspect was the general improvement shown in methods used by all agencies in conducting club work. State and county reports indicate that club methods were carefully analyzed and the plans of work based upon the findings; that headway was made in centering the attention of the young people upon the needs of their communities through selecting club demonstrations based on recognized community needs; and that the majority of clubs had written programs showing farm and home demonstration work to be done, how, when, and what ultimate goals were to be striven for.

Home Baking. By Charlotte Chatfield, associate home economics specialist, Bureau of Home Economics. Pp. 14. August, 1925. (Farmers' Bulletin 1450.)

Planned primarily as a guide to home baking, this bulletin, through its discussion of the materials required for making various kinds of baked products of high quality, offers help also in the choice of those produced commercially. It points out what makes for high quality, and gives methods and proportions for making typical yeast breads, quick breads, cakes, and other baked goods at home. A great variety of recipes is not included; instead emphasis is placed on the general principles of baking, proportions, and ways of substituting various ingredients, such as soft-wheat for hard-wheat flour, so that the housekeeper can make economical use of the materials at hand. This bulletin supersedes Farmers' Bulletin 1136.

Tree Distribution Under the Kinkaid Act of 1911. Forest Service. Pp. 14, figs. 11. August, 1925. (Miscellaneous Circular 16.) Price, 5 cents.

More than 195,000 trees were distributed last year to farmers in the Kinkaid District of Nebraska from the Forest Service nursery at Halsey, Nebr., according to this circular. This brings the total number of trees distributed since 1912 above 1,800,000. Reports sent in by the farmers who have planted trees received from this nursery indicate that an average of about half of them survive. This is a good showing considering the inhospitable sand-hill sites on which many are planted. Some planters who take unusually

good care of the trees have obtained almost perfect stands.

"The main object of the tree distribution by the Government," says the circular, "is to stimulate interest in tree growing, chiefly for the production of fuel and fence posts and the establishment of windbreaks. With proper care, wood-lot plantations should begin to yield fence posts and firewood in 15 years. Since trees will do well on soils not suitable for farm crops, profitable use can be made of what might otherwise be unproductive areas. Furthermore, the establishment of windbreaks and wood lots makes living conditions pleasanter and adds materially to the value of the property." The circular gives directions regarding species to plant and methods of planting and caring for the trees.

ADDITIONAL PUBLICATIONS

White Pine is Profitable if Protected from Blister Rust. By J. F. Martin, pathologist, Bureau of Plant Industry. July, 1925. (Miscellaneous Circular 40.) Price, 5 cents.

A Mosaic Disease of Winter Wheat and Winter Rye. By Harold H. McKinney, associate pathologist, office of cereal investigations, Bureau of Plant Industry. Pp. 11, figs. 4. September, 1925. (Department Bulletin 1361.) Price, 5 cents.

Articles in Current Publications
By Department Workers

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Charles, Vera K. (Plant Industry). Mushrooms—How to tell whether edible or poisonous. Nation's Health, vol. 7, p. 456-459. 510, 518. July, 1925.

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Geary, Frank. Land tenure and employment. London, G. Allen & Unwin, 1925.

LOST BOOKS

The library of the department reports that the following volumes are missing from its shelves. Any information leading to their whereabouts will be very much appreciated by the librarian:

London—Chemical Society Journal
Vol. 95, pt. 2, 1909
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Silveria, A. A. da. Narrativas e memorias. v. 2. Bello Horizonte, Imprensa official, 1924.

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Revista avícola peruana [monthly]. v. 1, no. 1—June, 1925—Lima, Peru.
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CIVIL SERVICE ANNOUNCEMENTS

Plant pathologist, \$3,800; assistant plant pathologist, \$2,400. A vacancy in the position of plant pathologist, Orlando, Fla., and a vacancy in the position of assistant plant pathologist, Madison, Wis., both in the Bureau of Plant Industry, Department of Agriculture; and vacancies occurring in positions requiring similar qualifications throughout the United States will be filled from these examinations. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$5,000 a year for plant pathologist, and up to \$3,000 a year for assistant plant pathologist. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 27.

Associate parasitologist, \$3,000. A vacancy in the Bureau of Animal Industry for duty at the Jeanerette Experiment Station, Jeanerette, La., and vacancies in positions requiring similar qualifications throughout the United States, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$3,600 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 20.

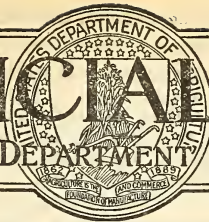
Instrument repairman, \$1,680. A vacancy in the Forest Service, Ogden, Utah, at the salary indicated above, and vacancies in positions requiring similar qualifications at this or higher or lower salaries will be filled from this examination. After the probational period of six months required by the civil service act, advancement in pay may be made without change in assignment up to \$2,040 a year. Applicants should at once apply for Forms 2415 and 2029, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 27.

Assistant scientific aid (linter grading), \$1,500. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$1,860 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close October 24, 1925.

Junior messenger, \$600; assistant messenger, \$900. (Examination open to boys only.) Vacancies in the Departmental Service, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$780 for junior messenger and up to \$1,140 a year for assistant messenger. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 10.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., OCTOBER 7, 1925

No. 40

DEPARTMENT SCHOOL OPENS OCTOBER 12

Courses Offered on Subjects Not Obtainable at Other Local Institutions

The fifth year of the department's educational courses will open on Monday, October 12. These courses were established to increase the efficiency of the scientific work of the department by bettering the training and ability of its personnel. The courses offered have been limited to subjects or phases of subjects not obtainable at other local educational institutions.

In the four years of its existence this departmental training school has been successful beyond the original expectation. Large numbers of men and women have availed themselves of these opportunities for increasing their knowledge and ability. The results have been evident in increased efficiency of departmental work and a better morale among the workers. In addition many have been stimulated by their first experience to pursue other studies in the department school or in other institutions.

Previous Enrollment Encouraging

The total enrollment by school years, counting the students of the two semesters or half years of each school year separately, is most encouraging. For 1921-22 it was 319; for 1922-23 it was 423; for 1923-24 it was 315, while for 1924-25 it dropped to 192. The total of half-year registrations is 1,249, or the equivalent of about 625 full-year registrants. The decrease in enrollment of last year was expected. At the beginning there was a large accumulated demand from workers who had entered the service when no such educational opportunities were afforded. This demand has required the giving of some courses, such as that in statistical methods, in every year since the school was founded.

In addition to the courses of instruction offered, arrangements may be made for special research courses. These will permit qualified investigators in the department to conduct definite research under the direct supervision of a leader appointed by the Graduate Committee. Satisfactorily completed work thus directed then can be submitted for graduate credit.

The courses will open on the indicated days in the week beginning October 12. Lectures will be given at 4.30 p. m. unless otherwise arranged.

Each course will consist of two lectures per week unless otherwise stated. Full-year courses cover 30 weeks and the fee is \$25, of which \$15 is payable at time of registration and \$10 at the beginning of the second half year. Half-year courses run 15 weeks unless otherwise stated, and the fee is \$15, payable in advance. Two half-year courses taken in the same year will be \$25. Quarter-year courses comprise 15 lectures, and the fee is \$8, payable in advance.

Credits Accepted by Other Institutions

Standard graduate institutions have accepted the credits resulting from satisfactory completion of the graduate credit courses.

Registration will be at the Office of the Director of Scientific Work. The courses described below will be scheduled if sufficient numbers of students make application for them. Prompt sending of applications is urged in order that teacher and students may know what courses will be given.

Language and Composition

Elementary scientific German.—(Year.) Noncredit course. Dr. Charles Drechsler. Tuesday and Thursday, 106 west wing. Begins with brief review of German grammar and reading general text. Attention will be given mainly to reading scientific text with exercises in translating same into English. A certain amount of collateral reading, in material of special interest to individual students, may be prescribed. Prerequisite: The equivalent of one year of elementary German.

(Continued on page 6)

W. W. SKINNER ATTENDS WESTERN CONFERENCES

Addresses Denver Food Convention And Inspects Chemical Work in West

Dr. W. W. Skinner, assistant chief of the Bureau of Chemistry, and chairman of the Joint Committee on Food Definitions and Standards, has returned from a visit to the Pacific coast and intermediate points, during which he addressed the annual convention of the American Dairy, Food and Drug Officials at Denver, attended the annual meeting of the American Chemical Society in Los Angeles, and conferred with men in charge of field work of the Bureau of Chemistry in California and other Western States.

Assistant Secretary Gives Address

Doctor Skinner reports that the Denver meeting of the Federal and State food and drug officials was one of the most interesting and successful that the association has held in recent years. This was due to the excellent program which had been arranged and to the presiding officer, Mr. Sibbald, of Minnesota, who kept the proceedings of the convention moving in a most effective manner. One of the chief features of the program was an address by Assistant Secretary Dunlap, who as a former food commissioner of Ohio, has had wide experience in food control work. Dr. H. W. Wiley, formerly chief of the Bureau of Chemistry, and a pioneer in pure food work, addressed the convention.

Two important matters which were considered by the convention were the standards for ice cream and the labeling and standards for beverages. These questions were discussed not only by State and Federal officials but by representatives from trade associations and by individual members of the trade.

In Los Angeles Doctor Skinner, in addition to attending the meetings of the American Chemical Society, conferred with E. M. Chace, chemist in charge of the fruit and vegetable chemistry laboratory, and reports that excellent progress has been made in the cooperative work with the Raisin Growers' Association in the grading of raisins. Visits were made to the citrus groves in which the cooperative work of Mr. Chace and Dr. A. D. Shamel, of the Bureau of Plant Industry, is being conducted.

Commends Bud Variation Work

Doctor Skinner reports that the bud selection work of Doctor Shamel promises to bring practical results of the greatest value to fruit growers. In the first two phases of this work, which have been about completed, Doctor Shamel has shown how the production may be affected and how the physical character of the fruit may be controlled by bud selection. The third phase of the work, which is to be taken up by Doctor Shamel in cooperation with Mr. Chace, has to do with the edible qualities of the fruit as affected by bud variation. The citrus-fruit growers are enthusiastically supporting the work of Doctor Shamel, according to Doctor Skinner, and are of the opinion that the successful completion of this work will be probably the greatest single factor in the progress of citrus growing in California for which the department has been responsible since the introduction of the navel orange.

Ice-cream and milk plants and tuna-canning factories in the vicinity of Los Angeles were inspected. A meeting of fish cannery was called at San Pedro to discuss what precautions should be exercised in the canning of fish to prevent accidental infection with botulism. This meeting was attended by Doctor Skinner, Doctor Meyer, of the University of California, Mr. Vincent, chief of the western inspection district, fish cannery, and others.

Studies Commercial Processes

In San José Doctor Skinner devoted one day to the cooperative work between the San Francisco station and the California Dried Fruit Association on the sulphuring of dried fruit. Numerous pear, peach, apricot, and prune drying plants were visited. Special study was made of the new methods developed by R. S. Hiltner for the sulphuring of fruit. Another day was given to the study of commercial processes of making preserves and jellies in the plant of a large commercial concern. It is believed that much information was secured that will be useful to the Standards Committee in

establishing definitions and standards for preserves and jellies.

Doctor Skinner visited the Bureau of Chemistry food and drug inspection stations in Denver, Los Angeles, San Francisco, Seattle, Kansas City, St. Louis, and Chicago, and the central and western district headquarters in Chicago and San Francisco during his western trip. In several of the stations he made addresses to the staffs on questions relating to personnel, finances, and general administrative matters. He also visited the Oregon State laboratories at Portland and conferred with Mr. Mickie, State food commissioner, and his associates, and visited Mr. Fenton, tea examiner at Tacoma, Wash. One day was spent at Helena, Mont., with Doctor Cogswell, secretary of the State board of health, and Glenn Wiles, chemist in charge of food and drug work for the State.

Spirit of Service Prevails

"A splendid spirit of service prevails in the several stations of the central and western districts which I visited," says Doctor Skinner.

He reports that the trip was very profitable but rather strenuous, due to the fact that not sufficient time was available at the several points visited. One of the pleasures of the trip was the meeting of the field employees of the Bureau of Chemistry, especially those who had heretofore been known only by acquaintance through official correspondence. Not the least of the pleasures was the meeting of some of the former employees of the Bureau of Chemistry, including Miss Lucy Clingan, Mrs. Hazel N. Montrose, Miss Hoey, F. N. Chisholm, H. S. Bailey, C. P. Wilson, and P. Nichols at Los Angeles, and Dr. C. L. Alsberg, former chief of the bureau, at Palo Alto, all of whom expressed a kindly interest in their former colleagues in the Bureau of Chemistry.

Texas Foot-and-Mouth Outbreak In Charge of Federal Forces

As a result of a telegraphic request from Governor Ferguson to Secretary Jardine, orders went out September 24 to Dr. Marion Imes, of the Bureau of Animal Industry, to take full charge of the work of eradicating foot-and-mouth disease in Texas. Before the department agreed to take full responsibility for the campaign against this outbreak the temporary injunctions granted to dairymen and hay contractors against the Livestock Sanitary Board of Texas were dissolved after hearings by the district judges who granted them. These

injunctions had prevented the enforcement of the quarantine regulations.

With the injunction obstacles removed and eradication forces under one head the way has been cleared for quickly getting the disease under control. In the centers where it first appeared it is now entirely under control. It exists only in the vicinity of Dickinson, Galveston County, which is the section in which the injunctions were granted.

Now that the outlook is for quick and unhampered control of the foot-and-mouth disease, it is expected that the embargoes placed against Texas by various States and by the English Government will be modified to apply only to the Federal quarantine area in that State. Several of them already have been so modified. Reports from Doctor Imes to the Bureau of Animal Industry in Washington indicate that all infected cattle remaining in the State were disposed of September 25.

Investigations of possible causes of the recurrence of foot-and-mouth disease in Texas after the first outbreak occurred last fall have brought to light some interesting possibilities. Dr. John R. Mohler, chief of the Bureau of Animal Industry, who spent some time in Texas at the beginning of this outbreak, has found that cattle ticks on animals suffering from foot-and-mouth disease carry away infected blood. He believes it possible that the infection may be carried through the eggs into the seed ticks and, after some months, transmitted to other cattle. One thing is certain, female ticks have been found with blood in their bodies carrying the virulence of foot-and-mouth disease. This is a complication which has not arisen previously in this country, as there has never before been an outbreak of the disease in the tick area.

Arrangements have been made by the department with the South Carolina extension service and Clemson College for a study of South Carolina cotton markets to ascertain to what extent differences in qualities are recognized in the country markets by local buyers. The study will be financed mainly with funds available under the Purnell Act. Tentative plans provide that the local college will collect information as to prices in a number of selected markets and gather samples of cotton actually sold at these prices. The department will class the samples so collected as a basis for comparing prices paid with the qualities sold. It is hoped as a result of the findings to encourage farmers to appreciate the value of superior qualities and to market their cotton accordingly.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

CROP BOARD DEFENDS ESTIMATES

The United States Crop Reporting Board, answering criticisms of its September 23 cotton report, announced September 28 that it stands fairly and squarely behind its reports and accepts full responsibility for them. The complete records of the board are on file at the department, the board pointed out, members of congress and others have frequently been invited to inspect them. These records contain the data upon which the September 23 and earlier reports were based and "refute the insinuations which have been made that the board is affected by outside influences in arriving at its estimates."

MORE MOTOR VEHICLES REGISTERED

Motor vehicles registered in the United States during the first six months of 1925 totaled 17,716,709, or an increase of 13.9 per cent over the registration during the same period last year, according to a report by the Bureau of Public Roads. This figure does not include 70,200 official vehicles owned by States on which registration fees were not paid. The greatest increase in registration for the same period in 1924 is in Alabama, with 53.6 per cent, followed by Florida with 41 per cent, Oklahoma 35.9 per cent, and Mississippi with 32.6 per cent.

COMPILE FIGURES ON NAVAL STORES

On the 1st of April, 1925, the chief turpentine and rosin using industries in the United States had on hand 1,265,000 gallons of turpentine and 195,636 round barrels of rosin, according to a compilation made by the Bureau of Chemistry on the figures furnished by the various industries using these products. On April 1, 1924, they had on hand 934,580 gallons of turpentine and 264,558 round barrels of rosin.

REPORT ON GASOLINE TAX FOR 1925

Gasoline taxes collected by the several States yielded a revenue of \$60,108,734 in the first half of 1925, of which \$53,814,240 is applicable to road work, according to a report by the Bureau of Public Roads. At the beginning of the year there were 13 States which did not tax gasoline. At the present time a tax is

imposed in all States except Illinois, Massachusetts, New Jersey, and New York. On July 1 the tax per gallon was 5 cents in 1 State, 4 cents in 2 States, 3½ cents in 1 State, 3 cents in 12 States, 2½ cents in 1 State, 2 cents in 23 States, and 1 cent in 5 States.

1925 SPRING WHEATS LOWER

The condition of all spring wheat in the four spring wheat States, North Dakota, South Dakota, Minnesota, and Montana, and much below that of last year on September 1, but Durum has fared better than other varieties, the department announced September 18.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What are Consumer - Demand Studies?

Answer. Studies made by the Bureau of Agricultural Economics to learn about the habits, taste, preferences, and customs, and reasons therefor, of housewives and other consumers in the use of agricultural products have been called "Consumer - Demand Studies." These surveys are generally made by the questionnaire method, using either the mail questionnaires or personal interviews to obtain the information desired. Advertisers, advertising agencies, and distributors are particularly interested in such studies, which help them in selling and making advertising appeals to the consuming public. Published reports of the bureau include two on consumer-demand for milk, one on cranberries, two on meat, and one relating to butter brands. A fruit and vegetable survey is now being prepared for publication.

Question. How is the retirement allowance figured?

Answer. To determine the amount of annuity which retired employees shall receive, seven classifications and rates, depending upon years of service, have been established. All employees to whom the retirement act applies, who have served for a total period of 30 years or more, will receive an annuity equal to 60 per cent of their average annual basic salary, pay, or compensation from the United States for the 10 years next preceding the date on which they shall retire: *Provided*, That in no case shall an annuity in this class exceed \$720 per annum or be less than

\$360 per annum. All employees who have served for a total period of 27 years or more, but less than 30 years, will receive an annuity equal to 54 per cent of their average annual basic salary for the 10 years next preceding the retirement date: *Provided*, That in no case shall an annuity in this class exceed \$648 per annum or be less than \$324 per annum. All employees who have served for a total period of 24 years or more, but less than 27 years, will receive an annuity equal to 48 per cent of their average annual basic salary for the 10 years next preceding the retirement date: *Provided*, That in no case shall an annuity in this class exceed \$576 per annum or be less than \$288 per annum. All employees who have served for a total period of 21 years or more, but less than 24 years will receive an annuity equal to 42 per cent of their average annual basic salary for the 10 years next preceding retirement date: *Provided*, That in no case shall an annuity in this class exceed \$504 per annum or be less than \$252 per annum. All employees who have served for a total period of 18 years or more, but less than 21 years, will receive an annuity equal to 36 per cent of their average annual basic salary for the 10 years next preceding the retirement date: *Provided*, That in no case shall an annuity in this class exceed \$432 per annum or be less than \$216 per annum. All employees who have served for a total period of 15 years or more, but less than 18 years, shall receive an annuity equal to 30 per cent of their average annual basic salary for the 10 years next preceding the retirement date: *Provided*, That in no case shall an annuity in this class exceed \$360 per annum or be less than \$180 per annum. Charwomen, laborers, and other employees, whether classified or unclassified, who are employed on a regular annual basis and whose basic salary, pay, or compensation is at a rate less than \$600 per annum shall receive an annuity determined according to the method prescribed in the foregoing schedules, except that no annuity shall be granted to exceed the per centum nor the maximum provided for the respective periods of service. It is provided that this class of employees shall otherwise be subject to the provisions of the act of May 22, 1920.

Officials of the Alabama Farm Bureau Hay Association state that they do not ship any hay unless it carries a Federal hay-inspection certificate. They say this practice is increasing their volume of business and bringing an increased price for their hay f. o. b. shipping points.



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LIVESTOCK MEDALS DISTRIBUTED

The gold, silver, and bronze medals authorized by act of Congress and approved by the President of the United States on June 5, 1924, for presentation by the Secretary of Agriculture to the winners at the Twenty-fifth International Live Stock Exposition have been completed and are being mailed to the winners.

The medals were designed under the direction of the Commission of Fine Arts of the United States, as directed by Congress. Each medal is the size of the silver dollar. The gold medals are of 14 carats fine gold, the silver medals of sterling silver, and the bronze medals of the same alloy of bronze used by the United States Mint. The obverse side of the medal carries a likeness of the emblem of the International Live Stock Exposition. The reverse side shows the seal of the United States Department of Agriculture, and upon that side are engraved the name of the winner of the medal, the name and registration number of the winning animal, and a brief description of the prize won. The medals were awarded on the basis of a bronze medal for each first-prize-winning animal; a silver medal for each champion animal; and a gold medal for each grand champion. Each person receiving a medal will receive a letter from the Secretary of Agriculture.

MISS RYDER CHIEF CLERK OF O. E. S.

The position of chief clerk of the Office of Experiment Stations has recently been filled by transfer of Miss M. E. Ryder from the appointment section of the Office of the Secretary. Miss Ryder's experience in the department service peculiarly fits her for this important position. She entered the service as a stenographer and was later private secretary to the director of the Office of Ex-

periment Stations. When the States Relations Service was created in 1915, she became associate administrative assistant. Since July 1, 1924, she has been in charge of the appointment section of the Office of the Secretary.

BROOMCORN SCHOOL SUCCESSFUL

The first broomcorn inspectors' training school, conducted at Oklahoma City September 8-19, inclusive, was very successful, according to reports received by the Bureau of Agricultural Economics. Fourteen men and one woman attended the school and of these four inspectors and one sampler were licensed for handling inspection in Oklahoma. The others took the course to become familiar with the grades in order to utilize them in their business.

The first inspection under the joint cooperative agreement between this department and the Oklahoma State Market Commission was made on September 14 at the request of the Broomcorn Growers' Cooperative Association of Oklahoma. This inspection was on a car of 57 bales sold to a man from Phoenix, Ariz. Both parties to the transaction were very much pleased with the inspection and the purchaser stated that he could have saved the expense of the trip from Phoenix to Oklahoma City, which was about \$100, if he had known of the character of the service being offered.

LAND-GRANT COLLEGE CONVENTION

The thirty-ninth annual convention of the Association of Land-Grant Colleges will meet at the Congress Hotel, Chicago, November 17-19, inclusive. The opening meeting will be held Tuesday evening, November 17.

AGRICULTURAL CHEMISTS TO MEET

The Association of Official Agricultural Chemists will hold its forty-first annual convention at the Raleigh Hotel, Washington, D. C., October 26-28, inclusive.

Dr. L. H. Almy, a chemist of the protein laboratory, Bureau of Chemistry, who has been conducting a study of belly-blown sardines at the Atlantic Biological Station of the Canadian Government at St. Andrews, New Brunswick, during the summer, has returned to Washington. As a result of this study, Doctor Almy found that the rapid decomposition of feely fish before and during the process of canning is due principally to the action of a proteolytic enzyme.

Returns From Abroad After Gypsy-moth Investigations

S. M. Dohanian, of the Bureau of Entomology, has returned from Europe after spending most of the last six months in Spain and Portugal, investigating the biological control of the gypsy moth, *Porthetria dispar*. He has made several large shipments to Melrose Highlands, Mass., of gypsy-moth larvae and pupae, and several lots of gypsy-moth parasites and predators. As a result of these shipments several parasite colonizations have been made. He reports heavy gypsy-moth infestations in parts of Spain and Portugal. The parasitism of the gypsy moth in these two countries was not so great as in parts of central Europe. He received splendid cooperation from the official entomologists in both Spain and Portugal, finding it a great help to the work. After the gypsy-moth season was over in those countries he consulted with entomologists of the United States Bureau of Entomology at Hyeres, France, and European entomologists at Rome, Florence, and Fano, Italy, and at the meeting of the Third International Congress of Entomologists at Zurich, Switzerland. In the southern part of France the gypsy-moth infestation is very light, as it has been for several years. In southern Italy a heavy gypsy-moth infestation is reported near Potenza, in the Province of Basilicata, and light infestations were located at Genoa and at Atessa, near Venice.

Representatives of the American Railway Association recently conferred with members of the Bureau of Agricultural Economics regarding certain cooperative relations, particularly in connection with service work between the carriers and the bureau. As a result of this conference it was agreed that a review be made of the information now being received regularly from the railroads by the bureau and that new requests for regular or periodic reports to be made by the railroads would be submitted to a committee appointed by this bureau and made a subject for conference between such committee and representatives of the American Railway Association. At present the committee is interested only in the information supplied regularly by the railroads, such as monthly or daily reports of shipments, arrivals, etc.

A series of conferences was held last week in order to acquaint food-products inspectors with the latest information regarding the interpretations of the United States grades for California grapes.

DEPARTMENT SCHOOL OPENS OCTOBER 12

(Continued from page 1)

Advanced scientific French.—(Year.) Credit course. Dr. H. B. Humphrey. Monday and Wednesday, 103 west wing. Reading, reviewing, and abstracting of French publications on agricultural botany, farm crops, industries, rural economies, etc. Such instruction in the reading and translation of French as will enable the student to read with ease and intelligence scientific literature pertaining to agriculture and its related industries. Texts: Fabre's "Le Livre des Champs"; "L'industrie"; Jousier's "Economie Rurale"; Bonnier's "Le Monde Vegetal," etc. Prerequisite: A knowledge of the elements of French grammar and elementary reading.

Agricultural writing.—(First half.) Credit course. Nelson Antrim Crawford, with special lectures by Dr. M. C. Merrill, C. E. Gopen, and others. Tuesday and Thursday, Motion Picture laboratory. Lectures, discussions, and practice in preparing agricultural and other scientific material for publication. Attention will be given to the demands of various types of readers with respect to both subject matter and style. Stress will be laid on means of making scientific data intelligible to farmers and of making farming and the farmer articulate to other groups in the population.

Bulletin writing.—(Second half.) Dr. M. C. Merrill, with special lectures by Nelson Antrim Crawford and others. Tuesday and Thursday, motion-picture laboratory. Lectures, discussions, and practice in the preparation of bulletins from the assembling of the basic data to the reading of the final proofs. The technical and the popular bulletin will each be treated in detail. Attention will also be given to reports of experiments in the technical scientific journals.

Mathematics and Statistics

Elementary statistical methods.—(Year.) B. B. Smith. Monday and Friday, 411 Bieber Building. First half: Organization of statistical investigations; analysis of problem, sources of materials, units, representativeness, comparability, accuracy; standard measures of the single series; tabular, mechanical, and graphic methods. Second half: Relationships between series; simple linear and curvilinear correlation methods, outline of multiple correlation methods; technique of analysis of time series. As much time as possible will be devoted to the description, discussion, and study of the methods and results used in actual statistical investigations.

Advanced statistical methods.—(Year.) Credit course. H. R. Tolley. Monday and Friday, 411 Bieber Building. First half: The development and application of the theory of statistics. A study of correlation, curve fitting, and their applications. Yule's "Introduction to the Theory of Statistics." Prerequisites: Elementary work in statistics and algebra through simultaneous equations. Second half: Analysis of time series; the making and use of index numbers.

Physics and Chemistry

Advanced crystallography.—(Year.) Credit course. Dr. Edgar T. Wherry. Tuesday and Thursday, Room 415, Bureau of Chemistry. First semester, geometrical crystallography. Second semester, identification of crystals by optical methods. Prerequisites: Elementary crystallography or mineralogy. Trigonometry and elements of analytic geometry. For the second semester each student will be required to have access to a chemical microscope. (Given as a special course in cooperation with the chemistry department of George Washington University, for three credit hours to students registered there.)

Acid-base and oxidation-reduction equilibria.—(First half.) A credit course of 15 lectures by Dr. W. Mansfield Clark, of the hygienic laboratory. Monday, 224 east wing. The first six lectures will deal with the elements of acid-base equilibria. These will establish familiarity with the experimental principles and the modes of formulation to be used in dealing with oxidation-reduction equilibria in reversible organic systems. Interconnections between the two types of reversible reactions will be shown. By reason of their number and variety the applications of the principles will not be treated systematically but will be used as illustrative material. Prerequisites: A fair knowledge of general chemistry, algebra, and logarithms.

Genetics

Plant breeding.—(Year.) Credit course. Leader to be announced. Wednesday and Friday, 4.30 p. m., room 104, Cereal Investigations. (1) The development of plant breeding; (2) fundamental principles; (3) their application to the art of plant improvement, mass selection, pure-line selection, bud selection, hybridization, including the theory of heterosis, and the technique of practical and experimental plant breeding. Seminars will be held, and specialists will discuss special problems.

Plant Science

Botany for the nontechnical.—(Year.) Noncredit course. Dr. A. S. Hitchcock. Monday and Wednesday, motion-picture

laboratory. An elementary course for clerical and other workers in scientific units to enable them better to understand the subject matter of correspondence, manuscripts, records, and files with which they are dealing. Simple details concerning the structure and life of common plants. Essentials of nomenclature and classification, the meaning of common terms, the Latin names of plants, the economic botany of our common crop plants, especially as to the parts utilized and the common terminology.

Animal Science

Principles of nutrition.—(Year.) Seminar once per week: Credit course. Dr. Paul E. Howe. Thursday, room 4-225, Building F. This seminar will cover selected phases of the nutrition of man and animals. Special lecturers will be brought in from time to time if the enrollment justifies. Prerequisite: A course in nutrition.

Agricultural Economics

Marketing and cooperation.—(Year.) Noncredit course. K. B. Gardner. Monday and Friday, room 305, 200 Fourteenth Street. First term: Principles of marketing. Functions, processes, machinery, and costs of marketing, with special emphasis on the distribution of agricultural products. Attention will be given to such problems as market finance, assumption of market risks, functions of middlemen, relation of the State to marketing, cost of marketing, etc. Some outside reading will be required. Second term: Cooperation in marketing. Announcements regarding this course will be made later.

EXPLOSIVE DUSTS FILMED

Good housekeeping in mills and grain elevators, advocated as a means of preventing grain-dust explosions, is demonstrated in the department educational motion picture, Explosive Dusts.

This film was recently revised to meet new practices in removing the danger of explosions in mills and elevators, and additional photography showing the dust-removing equipment of two of the largest and most up-to-date grain elevators is included in the revised edition. Vacuum-cleaning systems, bin vents, ventilations, floor sweeps, and other new apparatus, designed by Federal engineers to carry away excess dust, are shown.

Actual scenes of some of the disastrous results of dust explosions in grain elevators, which have taken scores of lives and caused enormous property losses, are included in the film.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

CHEMISTS AID SOFT-DRINK MAKERS

Over 5,000,000,000 glasses or bottles of soft drinks, exclusive of cereal beverages, are consumed annually in the United States, a large proportion of which are imitation fruit beverages, according to the Bureau of Chemistry. Such imitation fruit drinks have a legitimate place on the market if they do not masquerade as true fruit products. They are palatable, usually prepared under sanitary conditions, and the sugar they contain gives them food value.

Imitation fruit beverages do not contain fruit juices, but are made by adding artificial fruit flavor, color, and a fruit acid to sugar sirup, which is mixed with carbonated water in the proportion of one fluid ounce of flavoring sirup to 5 or 6 ounces of carbonated water. The refreshing sour taste of these drinks is imparted by citric acid which is obtained from lemons, or by tartaric acid which is a by-product in the manufacture of wine, or in the case of phosphates, by phosphoric acid, which is a mineral acid.

Most of these imitation drinks are made and dispensed locally and are therefore under the jurisdiction of State laws. However, the artificial flavors and flavoring sirups used in their manufacture are shipped into interstate commerce within the jurisdiction of the Federal law, and their imitation character is usually plainly indicated on the label.

The imitation fruit drink of 10 years ago usually had an odor and flavor suggesting banana, and was seldom mistaken for a fruit-juice beverage, but the modern artificial flavors so closely simulate the odor and flavor of the fruit named on the label that detection by taste of their artificial character is difficult. These flavors are the achievement of skilled chemists who have developed them by chemicals formerly employed in making perfumes. For instance, the odor of synthetic methyl anthranilate is hardly distinguishable from that of freshly crushed Concord grapes, and this chemical is used in most of the so-called grape drinks on the market. Artificial strawberry, cherry, raspberry, and peach flavors, which carry a strong suggestion of the odor and flavor of the fruit after which they are named, can now be purchased. The quantity of flavor in a glass of the finished beverage is extremely small—less than five drops.

Amaranth furnishes many of the shades of pink and red of these drinks while naphthol yellow and orange I are used to produce the orange-colored beverages. The manufacturers in those States where coal-tar colors are not permitted use colors which are derived from other sources, such as cochineal and caramel.

Since freshly pressed fruit juice has a cloudy or turbid appearance, due to particles of pulp in suspension, some manufacturers called upon the chemists to produce this effect in the imitation fruit beverage. The chemists solved the difficulty by emulsifying the flavor, usually an essential oil, with gum acacia and other gums, starch, etc. In this process the oil is broken up into minute globules which are kept from uniting with one another by a thin film of the emulsifying agent surrounding each globule. When an emulsion flavor of this kind is used the finished beverage will have a cloudy appearance resembling that of freshly pressed fruit juice.

All soft drinks should be labeled and sold in such a way that the purchaser will not be misled as to their composition. Those which imitate the taste and appearance of true fruit beverages should be plainly labeled as imitations if they are shipped in interstate commerce. Of course, soft drinks in common with other food products should contain no added deleterious ingredients which may render them injurious to health, otherwise they will be adulterated under the law and subject to confiscation and the shipper to prosecution.

WITH EXTENSION FORCES

CLOTHING CONSTRUCTION AND DESIGN

Appropriate dress, the club girls of Jasper County, Tex., have decided, is a matter of discernment and skill rather than one of quantity of money expended, a conclusion which they reached after a year's earnest work in construction and design of clothing under the direction of Pearl Ellisor, home demonstration agent.

Of the 162 girls enrolled, quite a number did not know how to use thimble, needle, or sewing machine, but all were eager to learn. The home-demonstration agent demonstrated the alteration and the use of commercial patterns, how to fold the material, cut it, and fit the garments. The girls would cut, baste, and fit the garments at one meeting; practiced making different types of seams, binding, and facing at the second meeting; then they were ready to begin the finishing at the third meeting.

The girls were trained in the selection of suitable materials; the combining of

harmonious and becoming colors. Sometimes the home-demonstration agent accompanied the girls on shopping tours, and together they examined materials and designs. The attractiveness as well as importance of simplicity and durability in articles of dress was emphasized.

When the clubs organized, they at once elected a president, vice president, secretary, and reporter. The officers took charge at each meeting, beginning with a short business session so that the members would become familiar with parliamentary usages, and then proceeding with the program of work which had been previously planned with Miss Ellisor. The reporter sent an account of each meeting to the two newspapers of the county.

Many parents came to visit the classes when they had all-day sessions. At noon the girls spread a regular picnic lunch, sang songs, and gave club yells. This sort of entertainment helped to keep the girls enthused and interested.

Interest in improvement of dress among club girls is due in some respect to the 4-H Appropriate Dress Contest which has been held for the last four years for clothing club members at the Agricultural and Mechanical College of Texas. There have been two classes in the contest, designated as Class I, which requires the making of a school costume, and Class II, which requires the making of a graduation or summer dress. All home-demonstration club members from 14 to 20 years of age are allowed to enter the contest. Prizes are awarded to the winners of both classes.

Forty girls from Jasper County contested to represent their county in the State clothing contest. Each girl was required to make a dress and a suitable set of underwear. The garments were placed on exhibition at Kirbyville, where the county clothing contest was held, for inspection by the club girls and visitors. In the afternoon they put on the dresses, came forward one at a time, each telling her name, age, and the cost of her dress, turning around slowly, then taking a place to the side. After the entire group had followed, one at a time, they all stood in a row and sang a club sewing song. Then the final judging was finished and the county winners announced.

Sensational press reports that large numbers of people in New Jersey were made seriously ill by eating unwashed sprayed fruit were investigated by officials of the Bureau of Chemistry. It was found that much sickness had prevailed in southern New Jersey, but that it was due principally to an epidemic of intestinal influenza and not to arsenical poisoning.

BRIEF REVIEWS OF NEW BULLETINS

Lessons on Cotton for Elementary Schools. By F. A. Merrill, specialist in agricultural education, division of agricultural instruction, Extension Service. Pp. 27, fig. 14. August, 1925. (Miscellaneous Circular 43.) Price, 10 cents.

This publication is intended as an aid in teaching some of the more important features of cotton culture, grading, marketing, utilization, and community production. It should be especially helpful to teachers in rural consolidated schools, where facilities for handling the subject are generally better than in the ordinary one-room country school. However, the teachers in one-room schools should find much of this material useful, since their needs have also been kept in mind in the preparation of the outlines. The lessons do not follow a logical order, but are arranged according to seasons, beginning with the opening of the fall term. This is to aid in so far as possible the following of the instructions in school by the regular round of operations on the farm.

Soil Survey of George County, Miss. By W. E. Tharp, of the United States Department of Agriculture, and E. P. Lowe, of the Mississippi Geological Survey. Pp. 43, fig. 1, pl. 1, map. (From F. O. Solis, 1922.) Price, 25 cents.

The report contains a detailed color map of the county, showing the extent and distribution of the various soil types. It also includes brief historical and geographical sketches of the region, together with statistics relating to the climate and farm practices. The crops grown on the great majority of farms are corn, oats, sweet potatoes, sugar cane, velvet beans, and cotton. Near Lucedale considerable trucking is done. Potatoes and sweet potatoes are the principal shipping products, with peas, beans, and melons as minor crops. The Satsuma orange and the pecan have been grown successfully for some years, and are assuming commercial importance. The great areas of unfenced land afford free pasturage for all livestock, much fuel wood, and considerable wood for other purposes. Cattle are an important source of income for most farmers, and sheep are successfully raised to a small extent.

Centralized Management of a Large Corporate Estate Operated by Tenants in the Wheat Belt. By Walter H. Baumgarten, formerly assistant in farm life studies, Bureau of Agricultural Economics. Pp. 34, figs. 12. August, 1925. (Department Circular 351.) Price, 10 cents.

Lessons from the successful management of a large corporate estate operated by tenants in the wheat belt are suggested in this bulletin. Since the estate, commonly known by the name of Amenla-Sharon Land Co., has developed a practically unique system which apparently can be adopted with modification by owners of large areas of farming land which have come into their possession as a result of the recent depression and which they are unable to dispose of, the department believed that general knowledge of this system would be helpful. The estate developed the policy of working the land by tenants at a time when land in that section of the country was cheap and easily acquired, and consequently when tenant farming was not prevalent. The large "bonanza" farms operated by hired labor, which so largely prevailed in the Red River Valley, have tended to be displaced by smaller farms; but the Amenla and Sharon estate has

continued with little essential change either in size or in policy. For the most part the system of management has been successful and has proved satisfactory to the tenants as well as to the owners. The detailed policies employed have been worked out gradually as a result of experience through several decades.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the two weeks, September 14-26, 1925. Copies of these publications may be obtained from the stations issuing them.

Propagation of deciduous fruits. J. L. Stahl. (California Sta. Circ. 294, pp. 24, figs. 21. Aug., 1925.)

Soy beans in Connecticut. B. A. Brown and W. L. Slate, Jr. (Connecticut Storrs Sta. Bul. 129, pp. 255-287, figs. 6. June, 1925.) **Infectious abortion (seventh report).—How cattle owners may have their herds tested.** (Connecticut Storrs Sta. Bul. 130, pp. 291-294. Aug., 1925.)

A comparative study of methods for determining the per cent of fat in dairy products. R. C. Fisher and C. C. Walts. (Connecticut Storrs Sta. Bul. 131, pp. 297-330. Aug., 1925.)

Thirty-seventh annual report of the Agricultural Experiment Station of the University of Kentucky, Lexington, Ky., for the year 1924. Part I.—Report of the director. Meteorological observations. T. P. Cooper et al. Pp. 53.

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MORE FARMERS USING RADIO

More than 550,000 farms in the United States are now equipped with radio, the Department of Agriculture estimates, following a nation-wide survey through county agricultural agents. A similar survey last year showed 365,000 farms on which there were radio sets, and in 1923 only 145,000 farms.

This rapid increase in the use of radio by farmers is due, department officials declare, to the need for prompt market information in merchandising farm products, to the educational value of the radio, and to its entertainment features. Many county agents reported that farmers have installed radio sets primarily to receive weather and market reports.

The department's estimate of 550,000 sets is based upon reports from 1,056 county agents. Illinois leads the list in number of sets on farms, the estimate for that State being 46,000 sets; New York is next with 39,000 sets on farms; Iowa farmers have 39,000 sets; Missouri 37,000; Kansas 35,000; Nebraska 34,000; Ohio 27,000; and Minnesota 26,000. California has 22,000 sets on farms; Michigan 19,000; Texas 18,000; and Indiana 17,000.

The smallest number of sets is in Delaware, for which the estimate is 200 sets on farms; Florida farms have 300; New Mexico 500; and Nevada 600. The Corn Belt States show the greatest development in the use of radio on farms. The reason given for the slow development in the use of radio in the South is natural conditions which hamper clear broadcasting and reception.

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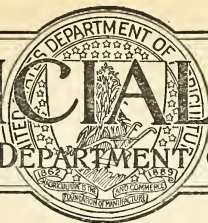
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CIVIL SERVICE ANNOUNCEMENT

Chief, Bureau of Agricultural Economics, \$6,000. A vacancy in the Bureau of Agricultural Economics, Department of Agriculture, and vacancies in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay without change in assignment may be made up to \$7,500 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close October 27.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 41

WOMEN'S INSTITUTES BENEFIT RURAL LIFE

Organizer of Federation in England and Wales Describes Success of Movement

"For home and country," motto of the Women's Institutes of England and Wales, has been the main reason for bringing the village women of those countries together for mutual help and intercourse, according to Miss Ethel Nightingale, speaking at the weekly conference of extension workers of the department on October 7. Miss Nightingale, who is an organizer of the National Federation of Women's Institutes of England and Wales, is studying extension methods in the United States for several months.

The idea of the women's institute, "a voluntary association of country women formed to improve conditions of English and Welsh rural life," was brought from Canada during the war. Describing rural conditions before the formation of these institutes and before the war, Miss Nightingale set forth in detail life in a typical English village 10 years ago. The village was composed of one or two large landowners and their families, who owned most of the land. The vicar, sometimes a younger son of a landowner, lived in the village the year around. But few members of the educated class or business people lived there. The rest of the population consisted of laborers who worked on the large estates, small farmers who rented, the blacksmith, the wheelwright, etc. The annual parish tea was the only social activity of the village among the women.

First Organized During War

In 1915, when all the men had gone to war, the first institutes were formed for producing and preserving food and for two years were mothered by the Agricultural Organization Society, which

provided an office in London and money for the cooperative work. The Ministry of Agriculture then took up the propaganda work for the women's institutes in 1917 because it saw the work was extremely good. Two years later, when the war was over and the land army disbanded and returned, the Ministry of Agriculture ceased its responsibility for propaganda but gave a diminishing grant with the understanding that the institutes would become self-supporting. The first grant of the Ministry of Agriculture was £10,000. Last year the federation had to ask for only £600 and hopes eventually to be self-supporting.

Owing to the great difficulty of lack of funds, the first general meeting of delegates from the institutes was called in 1917. They passed resolutions saying that the institutes would be as self-supporting as possible, and drew up their own constitution.

The phenomenal growth of these institutes is illustrated by the fact that from 187 institutes in 1917 the number has now grown to 3,400. Considering that England and Wales together are about as large as the State of Georgia and that the average population is 600 to 700 people to the square mile, this is quite an achievement.

Institutes are Self-Governing

The main point in the constitution is that all the institutes are self-governing—a most important thing in England, according to Miss Nightingale. They hold monthly meetings and an annual convention. The women are learning to make up their minds and really have opinions about what they want to do; whom they want for officers, and to serve on committees, etc. When the institutes first started all voting was unanimous, as all blindly followed what one person said or did. Now they express their own opinions, and Miss Nightingale pointed out that often dissenting opinions are very stimulating to the meetings. Thus the women are becoming interested in local government and voting, and in this way the insti-

(Continued on page 2)

WHITE PINE BLISTER RUST SPREADS IN WEST

Makes First Appearance in Oregon— Good Progress Made in Work of Control

White pine blister rust was found recently in Oregon for the first time by L. N. Goodding and T. D. Mallery, of the office of blister rust control, Bureau of Plant Industry. The discovery was made at Pacific City, 80 miles south of the mouth of the Columbia River, in Tillamook County. A second infection was located at Knappa, Clatsop County.

Blister rust apparently first reached the West in a shipment of white-pine seedlings from France to Vancouver, British Columbia. It was first discovered in British Columbia and Washington in 1921. In 1922 it was found at Ilwaco, Washington, at the mouth of the Columbia River. The latest discovery brings the rust within 175 miles of the northern edge of the great sugar-pine forests of southern Oregon and California.

Disease Within 30 Miles of Idaho

The blister rust has also appeared this year on cultivated black currants at various points on the west arm of Kootenay Lake and Kootenay River, in proximity to Nelson, British Columbia. The rust was found at Nelson in 1923 on cultivated black currants and is now apparently established on native western white pine there. The latest findings bring the disease within 30 miles of the Idaho boundary.

S. B. Detwiler, in charge of the office of blister rust control, has recently returned from an extended inspection tour of the 17 States in which cooperative blister-rust control work is in progress. He reports that control activities are making rapid headway and that in areas where work has been completed it has resulted in effective control of the disease. He stated:

"The recent advances of the rust, while much to be regretted, were inev-

itable. The blister rust was introduced from Europe into America only about 25 years ago; its rapid spread will continue until it has reached the limits of white-pine growth. However, while the spread of the rust can not be prevented, it can be materially slowed down, and in areas of valuable white-pine growth it is possible to apply local control measures that are inexpensive and effective.

Cooperation Proving Effective

"The officials of the affected States and the public are cooperating in a highly productive manner in the campaign against the rust. The knowledge has become general that the blister rust is a fungous disease which lives alternately on the bark of five-leaved pines and on currant and gooseberry leaves. In areas where it is established and the results of local-control work are apparent the public is also aware of the fact that it is absolutely impossible for the blister rust to attack the pines without first growing on currant or gooseberry plants, and that by uprooting all currant and gooseberry plants within a comparatively short radius of the pines they are protected against damage from the disease. However, the blister rust after it once attacks a pine tree keeps working through the living bark from year to year until the tree is killed. Effective control work can be done only before the pines are seriously attacked.

"Blister-rust control activities are organized under two coordinated programs. In the Eastern States an eight-year control program was begun in 1922. In the New England States and New York the Bureau of Plant Industry employs 36 blister-rust control agents who work under the direction of the State forestry officials cooperating with the State agricultural extension services. This year about a million acres will be cleared of currants and gooseberries and the pine on the land will be protected from the rust as a result of these control activities. The actual control work is done by the landowners, but the State furnishes a man to supervise the work and insure first-class results. The cost in the East averages around 18 cents per acre, and for this sum protection is afforded for 5 to 10 years.

West Has 10-Year Program of Control

"In the West Federal, State, and private blister rust control activities are coordinated under a 10-year program which was put under way in 1924. This program provides for the progressive development and application of control measures on the basis of a schedule which aims at accomplishing control before the damage from the rust is acute. Forest conditions in the West

make the work more difficult than in the East, and the acreage needing protection runs into millions. However, the grave danger which threatens the western white-pine and sugar-pine forests has aroused the West to action.

"The first step taken was to apply and enforce stringent quarantines against the shipment of blister-rust host plants. At the same time a systematic effort was directed toward the complete elimination of cultivated black currants from the States of Montana, Idaho, Washington, Oregon, and California. Cultivated black currants are especially susceptible to rust infection and become diseased at great distances from infected pines. By eliminating these plants from cultivation, the spread of the rust into new territory is slowed down, thus affording time for the application of such local control measures as are required to protect the pine. It is exceedingly fortunate that as a result of the foresight exercised by the State officials cultivated black currants will be completely cleared out of the States of Idaho and Oregon by the end of this year.

Local Control in Sugar Pine Forests

"The 10-year program also provided for beginning this year experiments in local control in the sugar-pine forests of southern Oregon. About 25 men were engaged in this work. It was found that wild currants and gooseberries, while very numerous in restricted areas, were few or absent over most of the forests. Consequently their destruction presented no great difficulties.

"Local control experiments were started in southern Idaho last year, when 10,000 acres were cleared of the pine-destroying 'ribes,' as currants and gooseberries are called. This year about 60 men were engaged in this work. Although delayed by the necessity of aiding in fighting the numerous forest fires which prevailed in Idaho during the summer, it is expected that the acreage covered will be considerably larger than in 1924. These experiments are conducted on the national forests.

Western white pine and sugar pine are among the most valuable timber-producing species in the West. The Federal Government, itself a large owner of these species, is vitally concerned in accomplishing extensive application of blister rust control measures."

WOMEN'S INSTITUTES BENEFIT RURAL LIFE

(Continued from page 1)

tutes are making it possible for the women to learn how to take their places as citizens.

The institutes are nonsectarian and are nonpartisan in their discussion of politics. Their aims and objects are to bring together and make acquainted all the women who live in the small village but who never knew each other before; to bring education into the villages; to teach handicrafts; to improve the housing conditions, which are quite deplorable; to bring about a higher minimum wage scale, and to bring libraries into the communities, etc.

In order to be as self-supporting as possible, there is a small membership fee of 2 shillings per year in each institute. Last year £2,000 were received by the national organization from affiliation fees and £1,000 from the Government. Donations are not encouraged—the women are rather urged to raise money by cooperative effort. Last year £1,800 received at national headquarters were made in this way. An endowment of £5,000 was given if a similar sum were raised. This fund has now reached £16,000.

Describes Typical Meeting

The typical program of an institute meeting consists of an address by the president, a discussion of business, reports of committees, then something of an educational nature such as the demonstration of some craft or a lecture or possibly a talk by some one in the neighborhood, followed by tea "to loosen tongues," Miss Nightingale said. In this way all meet on equal terms from the wife of the landowner down to the poorest farmer's wife. Different women lead in community singing or little plays, according to their individual ability. Little competitions in some craft or other work are often held at the monthly institute meeting. Sometimes, too, the women will bring a garment which has been outgrown or some jam to sell.

Classes for training in homemaking and handicraft subjects are held at hours convenient for groups of women.

The local institutes are members of a county federation and also members of the national federation. In this way the institutes are gradually becoming a national institution.

Miss Nightingale gave these very interesting data as an outline of their mode of operation, but reiterated frequently that the great value of these institutes is not in the information taught, helpful though that be. She stressed the fact that the great contribution is that through this organization for the first time the village women of England and Wales have been brought into group activities and group consciousness and that through this contact and its responsibilities they are growing in knowledge, in judgment, and in vision as individual women, as home makers, and as citizens.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

NATIONAL FOREST TIMBER RECEIPTS

Breaking all records in the history of the United States Forest Service, receipts from the sale of national-forest timber for the first quarter of this fiscal year amounted to \$1,055,165, according to telegraphic dispatches received by the Chief Forester October 3. This is the first time, forest officials point out, that timber-sale receipts for any quarter year have ever topped a million dollars.

AGRICULTURAL SITUATION REPORTED

Agriculture has been fairly profitable this year and the improved purchasing power of farmers will do much to uphold general economic well-being through the winter, the department declared in its October report on the agricultural situation. The department pointed out, however, that while conservative judgment of the recovery of agriculture is warranted, farm prosperity can be as easily overrated as depression.

HEMP INDUSTRY SHOWS IMPROVEMENT

Hemp producers in the United States are in a more favorable position this year than in any year since 1922, the department has found by making a survey of the situation. Despite increased production, producers are receiving higher prices for this year's crop, the Wisconsin crop being contracted for at 4 cents a pound for tow and 8 cents a pound for line fiber, and the Kentucky crop being mostly contracted at around 10 cents a pound.

STUDY OF LIVING OF FARM FAMILIES

Data collected by the department from several thousand farms show that the value of the family living at farm prices approximates one-third the cost of living of farm families and two-thirds the cost of food, fuel, and house rent. It is one-ninth the farm receipts and one-third the farm income.

AERONAUTIC SAFETY CODE

In view of the recent *Shenandoah* disaster, it is timely to note that there has just been published a quarto pam-

phlet of 52 pages entitled "Aeronautic Safety Code," in the preparation of which the Weather Bureau of the department has taken an active part. The compilation of this code was begun in 1921 under the rules of procedure of the American Engineering Standards Committee, which designated as joint sponsors the Society of Automotive Engineers and the Bureau of Standards. A sectional committee was formed, with representatives from all organizations that were interested in the development of the code, including several departments of the Government, engineering societies, the National Aeronautic Association, the Manufacturers' Aircraft Association, and others. This sectional committee reviewed and passed upon the various parts of the code as prepared by subcommittees, and the whole is now issued as a "tentative American standard," subject to such revisions as experience may from time to time dictate.

The code consists of 10 parts and provides regulations for the design, manufacture, and operation of all types of aircraft, the selection and layout of airdromes and airways, the qualifications for airmen, the use of suitable signals and signaling equipment, etc. The importance of meteorology to the successful development of aeronautics is recognized and provision is therefore made for adequate meteorological service, including bulletins showing current conditions along airways, weather forecasts, storm signals, etc.; also for instruction to pilots that will enable them to interpret and use weather information to the best advantage.

The Weather Bureau is represented on the sectional committee by W. R. Gregg, chief of the aerological division. Mr. Gregg is also a member of the subcommittee on airdromes and traffic rules, covering parts 4 to 7 of the code, which include the provisions for meteorological service, instructions, etc.

PRaise for Small Economy

A recent economy effected by L. G. Fenton, in charge of the tea examiner's office of the Bureau of Chemistry at Tacoma, Wash. has won for him the commendation of the Director of the Budget, Gen. H. M. Lord.

Mr. Fenton has evolved a scheme for reusing wrapping paper whereby all sample packages are tied with used twine and wrapped in about two-thirds old paper and one-third new paper.

In a letter to the Secretary of Agriculture relating to this matter, General Lord said, among other things:

"This is a small matter, Mr. Secretary, but the aggregate of these small matters reaches vast proportions, and the practice of effecting small economies naturally leads to the effecting of great economies. I am glad to have this information. It gives me real pleasure to congratulate you on the economical administration of your Tacoma tea examiner's office."

ADOPT NEW OIL TEST FOR FLAXSEED

That the quick method for determining the oil content of flaxseed developed by Dr. D. A. Coleman and H. C. Fellows, of the Bureau of Agricultural Economics, is appreciated by the flax industry is evidenced by the fact that four sets of the testing apparatus have already been ordered for commercial testing purposes. The Minnesota grain inspection department has ordered one set for use at its Minneapolis grain inspection department and a second set for use at its Duluth department. The State of North Dakota has ordered a set for use in testing North Dakota flaxseed. This set will be located at the State mill at Grand Forks. Governor Sorlie, after the test was demonstrated to him, was so impressed with the value of it that he cut red tape in ordering the set by handing Doctor Coleman his personal check to cover the cost of the apparatus, with the request that Doctor Coleman place the order for him. The William O. Goodrich Co., linseed oil manufacturers and refiners, Milwaukee, has advised Doctor Coleman that it has ordered a set of the apparatus and, among other things, stated: "We feel that this new test will develop many operations where great economy can be effected in our industry." The Howard Wheat and Flour Testing Laboratory at Minneapolis has also adopted the method and is advertising that it is ready to make the test for a change. The grain division of the Bureau of Agricultural Economics has installed a set of the apparatus at Minneapolis and many commercial transactions in flaxseed are now being based on the tests made at that laboratory.

The new test is also applicable for determining the oil content of cottonseed, soybeans, or any other oil-bearing seed. Many requests are being received for the mimeographed report which describes the test.

Arrangements are now being made by the Bureau of Agricultural Economics to give a working demonstration of the test at the chemical exposition which will be held at New York City for 10 days during the latter part of this month.



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DR. M. C. HALL HEADS ZOOLOGICAL WORK

Dr. Maurice C. Hall, senior zoologist in the zoological division of the Bureau of Animal Industry, has just been appointed chief of that division, succeeding Dr. B. H. Ransom, who died suddenly on September 17.

Doctor Hall entered the zoological division June 20, 1907. He resigned in 1916 to take a position as parasitologist in the medical research laboratory of Parke, Davis & Co., Detroit, Mich. In 1918 he entered the Army and was commanding officer at Base Veterinary Hospital No. 3. He received his discharge six months later and after a brief time returned to the zoological division.

Doctor Hall has had teaching experience in a country school, high schools, an academy, and college. He is the author of more than 200 papers and some books dealing with medical and veterinary zoology. He has conducted special investigations in anthelmintic medication and has standardized this subject for veterinary practice in the United States. It was Doctor Hall who proposed the carbon tetrachloride treatment for hookworm disease of man, dogs, foxes, and certain other animals, which is now used in over 1,500,000 cases of human hookworm disease and is regarded as the best-known treatment, being used in practically all countries where hookworm disease occurs. He recently proposed with Dr. J. E. Shillinger another new drug, tetrachlorethylene, which promises to be even better than carbon tetrachloride for hookworm disease.

Doctor Hall is a foreign member of the Reale Accademia d'Agricoltura Torino, fellow of the American Association of Agricultural Sciences, member of the American Society of Tropical Medicine, American Veterinary Medical Association, American Society of Parasitologists (councillor), Entomological Society of America, American Association of Eco-

nomic Entomologists, Washington Academy of Sciences, Helminthological Society of Washington (secretary 10 years, past president), Entomological Society of Washington, Sigma Xi, and Phi Beta Kappa. He is an honorary member of the Maine Veterinary Medical Association and the North Carolina Veterinary Medical Association.

Four New Appointments in Bureau of Home Economics

On October 1 the Bureau of Home Economics increased its scientific staff by the appointment of three new members for the division of economics and another assistant clothing specialist for the division of textiles and clothing. This gives the bureau a staff of 25 scientific workers, which, in addition to the clerical and administrative force, brings the whole personnel up to 42.

Mrs. Chase Going Woodhouse, who enters as a specialist in the division of economics, has been for the last eight years giving courses in economics and sociology at Smith College, Northampton, Mass. She has also been collecting material for a book which she is now writing on standards of living and has published a number of articles on the economic problems of the home. Mrs. Woodhouse has also developed a plan for a graduate school of social economy of the home.

Mrs. Woodhouse took her bachelor's degree at McGill University at Montreal and spent an additional year there in the graduate school. She has also had a year of graduate study at the University of Berlin and two years at the University of Chicago, specializing always in some phase of economics. Family budgets and accounts will be Mrs. Woodhouse's first problem in the Bureau of Home Economics, and as soon as sufficient data have been collected and analyzed she will prepare a popular bulletin on this subject.

Miss Edna Clark, A. M., from the University of Chicago and more recently from the research staff of Iowa State College of Agriculture, will give her attention at once to the analysis of clothing expenditures. These data have been collected from several thousand farm families as a part of the standard of living studies conducted jointly by the Bureaus of Agricultural Economics and Home Economics. Miss Clark is peculiarly well fitted for this research, as she has been working during the last six months on the analysis of data from the Iowa standard of living studies under the direction of the State college at Ames. She is appointed as an associate specialist in the economics division.

The third appointment to the economics staff is Mrs. Laura C. Brossard, a junior specialist. She will help in the analysis and interpretation of the records showing expenditure of time in housework which home makers all over the United States are sending in to the bureau. Mrs. Brossard is a graduate of the University of Minnesota and has also studied in the Utah College of Agriculture and in George Washington University.

Miss Maud Campbell, B. S. and M. S., from Iowa State College of Agriculture, takes the place in the division of textiles and clothing of Miss Margaret Bostian, who resigned to accept a position in a private school in St. Louis, Mo. Miss Campbell will continue the research begun in clothing construction and design.

COMMENDS BOY FOR FIRE FIGHTING

The combination of doing a good deed and putting out a forest fire has brought fame and a letter of appreciation from Secretary Jardine to Melvin Morris, a boy scout of Santa Fe, N. Mex.

According to information received from the Forest Service, Melvin drives a service car, and while taking a party on a trip through the Santa Fe National Forest came upon a blaze which had spread from an abandoned camp fire. The blaze had reached a diameter of about 100 feet and was being fanned by a fair wind. Melvin promptly stopped the car and got busy. His passengers objected, saying that the fire was all right, that it was not his business, anyway, and that, furthermore, they had hired him to drive them and not to fight fire. The boy nevertheless persisted in putting the fire out before going on with the car.

In his letter Secretary Jardine said that this fine exhibition of public spirit merits the highest commendation of the department.

SALE OF FRUIT CAKE

Fruit cakes will be on sale again this season, profits going to the V. F. W. Post 824, Department of Agriculture. When ordering, please state date you wish delivered.

Five-pound cake, \$3; 3-pound cake, \$2. Send orders direct to Mrs. Guthridge, main building basement, or telephone her, branch 171. If convenient, please send orders before November 15.

There are six cans of maple sugar left; \$3.25 per can of 10 pounds.

NEW IDEAS AND DISCOVERIES

CONTROL OF SKIPPERS IN CURED MEATS

An investigation of the cheese skipper, the larva or maggot of a diminutive and very active fly that is particularly injurious to smoked meats in the United States, was undertaken by the writer in 1921 and concluded in the spring of 1923. This study has brought out the following new data regarding the life history, habits, and control of the insect.

Tests have shown that wire cloth of 20 meshes per inch, formerly recommended to exclude the adult flies, is not sufficiently fine for that purpose. The flies may be excluded, however, by the use of wire cloth of 30 meshes per inch. Rooms or closets in which cured meats are stored should be carefully screened. The practice of allowing smoked meats to cool off in unscreened smokehouses should be abandoned. Since newly smoked meats are most attractive to the flies, the infestation of meats is certain during warm weather, in localities where skippers are found, where meats are allowed to cool off in smokehouses not carefully screened. The wrapping of smoked meats (see Farmers' Bulletin 1186) is an excellent method of protecting them from skippers, but in warm weather meats should be protected by screens prior to wrapping in order to be sure that no eggs are laid before the wrappings are applied.

Besides ham, bacon, and cheese, the insect in its larval stage attacks dried beef, salt pork, fish, carrion, bones, and even human cadavers. Stores of bones constitute breeding places for skipper flies, and care should be taken to avoid as far as possible the storage of such inedible materials in the neighborhood of stores of cured meats. The prevention of infestation is the essence of the control of this pest.

Although a number of methods have been tried, no satisfactory way of ridding infested meats of all stages of the insect has been developed. There is probably no insect more resistant in its larval stage to the action of many materials which usually function as insecticides. Immersion for over three hours in gasoline was not fatal to all of the larvæ, and 1 minute in chloroform, 1 minute in carbon disulphid, 20 minutes in carbon tetrachloride, 34 minutes in concentrated solution of ammonia, or 5 minutes in ether did not kill them all. Maggots buried in pyrethrum powder pupated normally in it.

Larvæ are exceptionally resistant to extremes of temperature. Half-grown

maggots subjected to a temperature of 5° F. for 64½ hours were able to continue development after removal to favorable conditions. Full-grown larvæ recovered activity after experiencing four hours' heating at 122 to 124° F.

They are able to resist the effects of starvation for months, even in hot weather.

In order to free infested rooms of all stages of the skipper, infested meats should be removed and the empty rooms fumigated with hydrocyanic acid gas. It is sometimes possible to remove small clusters of larvæ from meats by trimming out with a knife.

The flies mate immediately after emergence from the puparia and fertile eggs may be laid 10½ hours later. The maximum number deposited by a single female in the writer's experiments was 480, but the average is about 140, laid over a period of three or four days. An abundance of fluid or semifluid food, preferably the moisture of juicy ham, is a prerequisite to abundant oviposition. The flies ordinarily live but five to eight days in hot weather, but life is sometimes prolonged to more than a month during cool periods.

The eggs hatch in about 24 hours at temperatures of 80 to 90° F., and the larvæ feed continuously for five days, molting twice during this time. The favored food of the maggots is juicy ham, not including the fat parts, and in whole hams they quickly penetrate between the muscles to the center, making inspection and excision a difficult task.

When full grown, the larvæ leave their food and seek a dark, dry, close place for pupation. In their migration they employ two modes of progression—crawling and skipping. The latter activity has given them their name and is accomplished by bending double, hooking their oral claws over the edge of the beveled posterior end, pulling hard, and suddenly letting go. The resulting snap throws the insect into the air, sometimes to a height of 6 inches or a horizontal distance of 10 inches. The puparium is formed rapidly, and in five days the fly emerges, completing the life cycle in hot weather in about 12 days.

Few economic insects have so long a history as *Piophilæ casei*. Since 1567 these maggots have been known to literature as pests of cheese, but it has been only during the past century or so, and in this country only since 1871, that published reports of their injury to cured meats have appeared. Although its ravages as a cheese pest have gradually lessened, it has now become the most important among the insects which infest cured meats, large quantities of which are lost each year in this country.

Fortunately, the old custom of eating skipped cheese appears to be dying out. When the larvæ are accidentally or intentionally swallowed, usually in connection with the consumption of cheese, they may pass through the alimentary tract alive, their presence in the intestines causing much suffering from myasis.

PEREZ SIMMONS.

Bureau of Entomology,
Washington, D. C.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is the manufacture of sausages under Government inspection and regulation?

Answer. Sausage, as well as all other meat food products prepared in about 900 establishments engaged in interstate or foreign commerce, receives careful inspection under the Federal meat-inspection service. Other sausage does not receive Government inspection.

Question. Is it safe to use timber which has been killed by the chestnut blight?

Answer. The blight fungus itself does not impair the strength or durability of the wood, but killed trees are subject to the same deterioration as any dead tree. Wood-decaying fungi promptly establish themselves in the areas of bark and sap wood which have been killed sometimes even before the tree itself is completely dead. Accordingly it is preferable to cut chestnut trees intended for use as poles or sawdust products before the trees are killed by the blight, as green trees are easier to cut and sell than dead ones. Within two years, or sometimes even sooner, following the death of a chestnut tree small patches of sap rot are established. Insects burrowing under the bark and through the sap wood spread the rot-producing organisms and loosen the bark. In from four to five years following the death of the tree most of the bark and part of the rotted sap wood sloughs off, leaving the bare trunk. The timber becomes dry and brittle. Checking begins in from two to five years after the tree dies, small trees checking more rapidly than large ones. When checking progresses sufficiently to become serious the value of the timber is much lessened for purposes other than fuel or extract wood. Some trees which have been standing dead for as much as 20 years have been sawed into lumber.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

OUR AVIAN IMMIGRANTS

Do you know that the United States imports more kinds of birds than are found in North America between the Gulf of Mexico and the Arctic Ocean, that nearly all these birds require a passport or permit from the Secretary of Agriculture to enter the country, and that during the past fiscal year the duty collected by the Government on imported birds averaged more than \$600 a day, or more than enough during the year to pay the interest on \$5,000,000 in Liberty bonds?

Most of these birds are cage birds brought in for sale and exhibition purposes, about 10 per cent are game birds for propagation, and a small proportion are imported directly by public zoological parks. Most of the birds are canaries from Germany, parrots from tropical America and Australia, quail from Mexico, weaver birds from Africa, and miscellaneous species from Europe and the Orient. Among them are many rare birds, some of them nearing extinction and not likely to be seen after a few years, as Bennett cassowaries from New Britain, kagus from New Caledonia, kiwis from New Zealand, and some of the doves from the islands of the South Pacific.

Among the 450,000 or more birds imported during the fiscal year 1925 were about 39,000 Mexican quail, which were distributed in some of the Eastern States for restocking covers, and about 3,000 Hungarian partridges, which were distributed in Idaho and Montana. Thousands of English and ringneck pheasants were imported from abroad before the war, but now the demand is supplied chiefly by birds bred in the United States on State game farms or by private breeders.

Formerly live birds were admitted free, but under the tariff act of 1922 a duty of 50 cents each was levied on all wild birds valued at less than \$5, and 20 per cent ad valorem on those valued at \$5 or more. The duty is collected by officers of the customs at the port of entry, but permits are issued free by the Secretary of Agriculture through the Biological Survey. Importers are required to furnish the name and address of the shipper and consignee, the number of each kind of birds, the port of entry, and the probable date of arrival.

A separate permit is not required for each bird, but merely for each shipment.

Permits are valid for 30 days after the expected date of arrival. In order to avoid unnecessary inconvenience, passengers bringing a few birds with them are allowed to include not more than six in their declaration of personal baggage without a formal permit, and, in order to avoid delay, if a permit can not be obtained in advance, importers may make application by wire or enter the birds under bond conditioned on securing a permit within 30 days. Large shipments are examined not only by officers of the customs but by special inspectors appointed by the Secretary of Agriculture.

The system has now been in force for more than 25 years and is the most comprehensive one of its kind maintained by any country in the world. The English sparrow and the European starling were introduced into the United States before 1900, when the Lacey Act, governing importations, was passed, but no injurious species, so far as known, has obtained a foothold since the permit system has been in force, although efforts have been made to bring in certain birds which might prove even more injurious than the sparrow or the starling.

WITH EXTENSION FORCES

RAISING A DUST OVER BUNT

"Dockage, 10 cents per bushel for bunt," is a comment on the quality of their wheat crop which Loudoun County, Va., farmers are not relishing. Rumors that farmers in other sections have as much or more bunt does not lessen the unpleasantness of the experience. So when County Agent J. R. Lintner suggested a meeting to talk over what could and had been done to remedy this trouble, 55 farmers O. K'd the proposal and came to Leesburg, September 28, to meet with Mr. Lintner, the local millers, James Godkin, the State plant pathologist, and R. W. Leukel and F. C. Meier, plant pathologists from the Federal Department of Agriculture.

Trouble with bunt or stinking smut is not entirely new to Loudoun County, only growing worse, as in many other localities. Three years ago the county agent received 1 pound of copper carbonate from the department to test as a remedy for bunt. Instructions for using it were very simple and he succeeded in getting 8 bushels of seed wheat treated with it and planted for demonstration purposes. Its success was striking. A number of farmers who were brought to see the demonstration wanted to give the method a trial in their 1924 crop. Homemade barrel mixers were devised by several ingenious men, others used discarded barrel churns, and one man

found a cement mixer satisfactory. About 1,600 bushels of seed were treated and control of the smut in the fields where this was used was practically perfect.

This year smut has been very bad in the county, except where seed grain was treated, and the wheat growers are getting worried over the prospect of investing time and money in making a wheat crop which may not even be usable as chicken feed. A number of the men at the recent meeting had not yet found the disease in their wheat and had not seen any affected grain. When they had an opportunity of examining some smutty wheat which had been brought in by the millers they readily saw and smelled that it was unsatisfactory either for food or feed.

The pathologists explained during the meeting how the disease gets started in a field or community and how it affects the wheat plant and grain, what results have been obtained in recent experimental treatments, and some ways in which the farmers could treat their own seed more easily. Some very plain-speaking figures on this year's shipments were presented by one of the millers. One of the farmers, who had been growing wheat in the county for many years, told how positive he had felt that the smut which Mr. Lintner had been talking and worrying about could cause him no injury, and then described what had happened to his field this year when the disease did get into his grain.

The meeting was held at the courthouse in the room assigned to the county board of supervisors, most of whom were present. A visit to see a gasoline-power treating machine at work in one of the mills in town followed. Farmers who do not wish to treat their own seed may have it done at this and one other mill in the county. Each of the power machines has a capacity of about 600 bushels per day, and both are operating continuously. The county editors are cooperating in running items about the work. Posters emphasizing the importance of treating seed wheat for smut are being prepared. Attention is called in discussing treatment to the fact that the copper carbonate dust when inhaled causes nausea and operators should wear dust masks or wet cloths over nose and mouth, and that no treated seed should be fed to livestock.

L. J. Palmer, assistant in charge of reindeer-grazing investigations of the Biological Survey, and his assistant, W. B. Miller, are engaged in establishing the new experiment station at Fairbanks, Alaska, by transfer from Nome.

BRIEF REVIEWS OF NEW BULLETINS

What Makes the Price of Oats. By Hugh B. Killough, assistant agricultural statistician, Bureau of Agricultural Economics. Pp. 40, figs. 8. September, 1925. (Department Bulletin 1351.) Price, 10 cents.

Farmers of the United States can sometimes sell a small crop of oats for more money than they can sell a large crop. This situation could be changed by regularly carrying over more oats from the large-crop years to the small-crop years, according to this bulletin. When a surplus is produced a large part of it is quickly used up, instead of being carried over to years when the crop is small. It is estimated that the producers could have received \$171,000,000, or about 9 cents a bushel, more on the carryover, by storing surpluses and regulating their movement to market in the period from 1895 to 1913. This study is not offered as absolutely conclusive. It is based on estimates and leaves out of the reckoning such considerations as local prices, differences due to grades, and storage costs. Nevertheless, the study is believed to indicate that there is an economic basis for efforts to distribute the oat supply in a more orderly manner.

Growing and Planting Coniferous Trees on the Farm. By C. R. Tillotson, forest inspector, branch of forest management, Forest Service. Pp. 38, figs. 28. July, 1925. (Farmers' Bulletin 1453.) Price, 10 cents.

Profitable crops may be obtained from the poorer areas on many farms by planting coniferous trees. Even in small sizes the conifers may be sold at a profit as Christmas trees, and in the large sizes they have an assured market for lumber or pulpwood. As a class they promise earlier and larger money returns to the farmer than other kinds of trees. Conifers are also very effective as

windbreaks. Although they grow best on rich, deep, well-drained soils, some species of conifers—the pines in particular—will ordinarily take hold better than hardwoods on poor soils such as worn-out fields or pastures, sandy areas, cut-over and burned-over woodlands, and areas with shallow soil. Information on how to obtain trees for planting, as well as complete instructions for producing home-grown seedlings, for planting them, and for caring for the plantation are given in this bulletin.

Laws Relating to Fur Animals for the Season 1925-26. By Frank G. Ashbrook, in charge, division of fur resources, and Frank L. Earnshaw, assistant, interstate commerce in game, division of migratory bird treaty and Lacey Acts, Bureau of Biological Survey. Pp. 29. September, 1925. (Farmers' Bulletin 1469.) Price, 5 cents.

The board of trade of the fur industry of the United States estimates the annual turnover in the fur business at \$400,000,000. Too large a proportion of the pelts coming to the raw-fur markets fall into the unprofitable class because they were taken when not prime, a waste which can be eliminated by cooperation between the fur trade and the trappers. The furriers and trappers, as trustees, are jointly responsible for the permanence of the fur resources. The bulletin presents a concise, synoptic summary of laws relating to seasons, licenses, shipments, propagation, limits, and bounties for each State and Province, and should be useful in promoting effective action on the part of trappers, members of the fur trade, and all others concerned to the important end of perpetuating one of the most valuable natural resources of the country.

such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

Monthly Weather Review. Volume 53, No. 6, June, 1925. Pp. 243-283, 11. Special articles: Investigation of the dust content of the atmosphere. By H. H. Kimball and I. P. Hand.—High maximum temperatures in late spring of 1925. By A. J. Henry.—Monthly forecasts by correlation: June, a key month. By Chas. D. Reed.—A new method of charting storm frequency. By K. Kelsey.—Correlation in seasonal variations of weather: A further study of world weather. By Gilbert T. Walker.—Upper-air observations at Apia Observatory. By Andrew Thompson.—Hourly rainfall probabilities at Lansing, Mich. By C. L. Ray.—The present meteorological needs of aeronautics. By F. W. Reichelderfer.—The rainfall capacity of the "equatorial current," a periodic factor in climate. By L. Besson.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies to libraries of and workers in agricultural colleges and experiment stations, to universities, and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Soil Survey of Cumberland County, N. C. By S. O. Perkins, of the United States Department of Agriculture, and W. A. Davis and S. F. Davidson, of the North Carolina De-

partment of Agriculture. Pp. 41, fig. 1, map. (From F. O. Soils, 1922.) Price, 25 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of September 28-October 3, 1925. Copies of these publications may be obtained from the stations issuing them.

A machine for treating cottonseed with sulphuric acid. J. G. Brown and F. Gibson. (Arizona Sta. Bul. 105, pp. 381-391, figs. 8. May, 1925.)
The adobe sweet-potato storage house in Arizona. F. J. Crider and D. W. Albert. (Arizona Sta. Bul. 106, pp. 393-410, figs. 15. May, 1925.)
Cotton variety experiments. J. O. Ware. (Arkansas Sta. Bul. 197, pp. 27. June, 1925.)
Protein supplements for fattening swine. H. E. Dvoracek, H. A. Sandhouse, and E. A. Hunt. (Arkansas Sta. Bul. 198, pp. 31. June 1. June, 1925.)
Variety and rotation experiments with soy beans. C. K. McClelland. (Arkansas Sta. Bul. 199, pp. 21, figs. 4. June, 1925.)
Experiments with varying stands and distribution of corn. Part I, Rates of planting corn. Part II, Checked versus drilled planting of corn. Part III, Wide and narrow rows of corn. Part IV, Conclusions. L. W. Osborn. (Arkansas Sta. Bul. 200, pp. 36. July, 1925.)
The growing and handling of head lettuce in California. H. A. Jones and E. L. Garthwaite. (California Sta. Circ. 295, pp. 36, figs. 32. Sept., 1925.)
Control of the California ground squirrel. J. Dixon. (California Sta. Circ. 296, pp. 15, figs. 3. Revised May, 1925. Sept., 1925.)
Possibilities and limitations of cooperative marketing. H. E. Erdman. (California Sta. Circ. 298, pp. 19. Oct., 1925.)
The fruit-tree leaf roll: its control in southern Idaho by the use of oil-emulsion sprays. C. Wakeland. (Idaho Sta. Bul. 137, pp. 11. Mar., 1925.)
Seasonal variation as it affects the activity and control of the alfalfa weevil in Idaho. C. Wakeland. (Idaho Sta. Bul. 138, pp. 11, figs. 3. May, 1925.)
Some new weeds of Iowa. L. H. Pammel and C. M. King. (Iowa Sta. Circ. 98, pp. 16, figs. 17. June, 1925.)
Grafting, budding, and early care of fruit trees. T. J. Talbert. (Missouri Sta. Bul. 233, pp. 36, figs. 20. May, 1925.)
Meadow and pasture management in the Ozark region of Missouri. C. A. Helm. (Missouri Sta. Bul. 234, pp. 32, figs. 21. May, 1925.)
Annual and biennial bearing in New York apples. H. D. Hooker. (Missouri Sta. Research Bul. 75, pp. 16. Apr., 1925.)
These fifty years. R. P. Crawford. (Nebraska Sta. Circ. 26, pp. 175, pls. 8. May, 1925.)
Studies on treatment of cotton seed. S. G. Lehman. (North Carolina Sta. Tech. Bul. 26, pp. 71, figs. 10. July, 1925.)
38th annual report of the director for the fiscal year ending June 30, 1925. R. L. Watts et al. (Pennsylvania Sta. Bul. 196, pp. 42, figs. 7. July, 1925.)

CIVIL SERVICE ANNOUNCEMENT

Junior engineer, \$1,860. Branches (optional subjects)—1, aeronautical; 2, ceramic; 3, civil (general); 4, materials; 5 and 29, mechanical; 6, mechanical (fuel combustion); 7, naval architecture and marine engineering; 8, radio; 9, structural (architectural); 10, structural (bridge). Vacancies occurring in the Federal classified service throughout the United States will be filled from this examination. After the probationary period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close November 14.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 53, No. 2, August, 1925. Pp. 101-200. Price, 10 cents.

—Vol. 53, No. 3, August Abstract Number. Pp. 201-300. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume. Foreign subscriptions \$1.25 a volume, payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 30, No. 12, June 15, 1925. Contents: Effects of Crops on the Yields of Succeeding Crops in the Rotation, with Special Reference to Tobacco. (G-494.) By W. W. Garner, W. M. Lunn, and D. E. Brown.—Some Effects of Seasonal Conditions upon the Chemical Composition of American Grape Juices. (G-433.) By Joseph S. Caldwell.—Natural Reproduction after Forest Fires in Northern Idaho. (F-31.) By J. A. Larsen. Pp. 1095-1197, 11. Price, 25 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 6, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semi-monthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, and to large universities, technical schools, and

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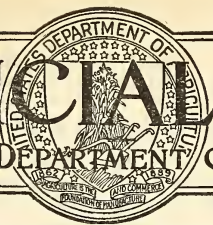
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Mrs. M. T. Read of the Bureau of Chemistry, who for several years has been in charge of the clerical work at the Denver station, has been transferred to Washington to assist in the assembling and preparation for publication of data which have been accumulated in various units of the bureau by numerous investigations extending over many years but not heretofore published. Mrs. Read was selected for this work since her long experience in the Bureau of Chemistry has given her an extensive knowledge of the work in all its phases.

Dr. Ruth Buchanan, of the Bureau of Chemistry, has resigned to accept a position as teacher at the University of West Virginia at Morgantown. Doctor Buchanan entered the bureau in 1918 and was assigned to the plant chemistry laboratory. In 1920 she was transferred to the food-control laboratory, where she was engaged in the investigation of cereals and products made from cereals. She was transferred in 1924 to the crop-chemistry laboratory. She is the co-author of publications dealing with investigations of corn meal, corn flour, sweet potatoes, and baking powder.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 42

URGES MORE UNIFORM COTTON RULES ABROAD

Dr. A. B. Cox Reports Progress Observed After Year in Europe

Standardization of cotton-trading rules and contracts in the world's cotton markets would iron out many of the difficulties now experienced by American shippers and place the world cotton business on a more uniform basis, Dr. A. B. Cox, agricultural economist of the Bureau of Agricultural Economics, declared following a year's study in European cotton markets.

"Much time and money are lost in international cotton trade through the need of uniform standards in the settlement of disputes arising out of differences in trading rules, contracts, trade practices, and quality descriptions in the various markets," Doctor Cox said. "No two cotton markets are alike in methods of calculating cotton tare and weight outturns, in the wording of contracts, and as regards length of staple on which the contract is based. It is difficult for the smaller firms, and especially those just getting into the business, to compete successfully because of the difficulty of getting this information."

Encourages Standardization of Rules

Doctor Cox's recommendation for the elimination of these difficulties is to encourage the movement for the standardization of rules, practices, and staple-length description. These reforms he thinks will be greatly promoted by the cooperation of the European cotton trade with American shippers.

"There is every indication," Doctor Cox says, "that these needed reforms will sooner or later be adopted. The successful use of Universal Standards for grade and color of American cotton and the better acquaintance brought about by the association of the representatives of the different markets in

making the standards and the official copies to be used by them are having a wonderfully unifying influence. Individual members of several of the foreign exchanges expressed themselves as being favorable to a movement for the standardization of certain rules and practices and of staple length description if the desired results can be brought about without upsetting business. The merchants and agents usually say 'show us it will work and we are for it, but we want as little experimenting and uncertainty as possible.'

"The Universal Standards for grade and color of American cotton have been accepted in fact as well as in name. This success has been especially pronounced on the continent. In some of these countries the spinners buy most of their cotton on description for grade and almost invariably describe it in terms of the Universal Standards. Most of the European cotton merchants who sell on such terms use the same description in buying from their American shippers, for it is the best guaranty against loss. It is the success of these standards that has encouraged the spinners to come out so strongly in favor of some universal standard description for staple length."

European Textile Situation

Discussing the present European textile situation, Doctor Cox said that textile production in England has been very much reduced since the war, on account of decreased buying power of India and China, but is now increasing. Italy is taking more American cotton to meet the demand for lower-grade products. Production costs also in Italy are much lower than in England, due to cheap labor.

The German mills, Doctor Cox said, made money up to June, when production began to outrun sales. Switzerland has about the same situation as in England, the demand for high-class goods for embroidery and laces having declined, and cost of production high. Spain is manufacturing mainly for home needs.

(Continued on page 8)

LAKE STATES HOLD T. B. CONFERENCE

Department Cooperates in First Meeting in that Section— Well Attended

Following the lead of other sections of the country, and partly through the initiative of Dr. R. C. Julien, State veterinarian of Indiana, the Lake States held their first conference on the eradication of tuberculosis in livestock October 12 and 13, at Indianapolis, Ind. The conference was under the auspices of the livestock sanitary officials of the States of Illinois, Indiana, Kentucky, Michigan, Ohio, Tennessee, and Wisconsin, cooperating with the Indiana Veterinary Medical Association, the Indiana Livestock Sanitary Board, and the Bureau of Animal Industry of the United States Department of Agriculture. The meetings, which were held in the House of Representatives of the State Capitol, were well attended and it is believed will add impetus to the eradication work in that region.

Hon. Ed. Jackson, Governor of Indiana, gave the address of welcome to the delegates at the opening session on October 12. Dr. J. A. Kiernan, chief of the tuberculosis eradication division, Bureau of Animal Industry, speaking on "Eight Years' Work on Eradication of Tuberculosis of Livestock," said the work is proceeding in a satisfactory manner all over the United States. He pointed out some of the work that has been accomplished, described plans for the future, and gave suggestions for strengthening the work all along the line.

Education Necessary to Program

"In undertaking a work of this kind, it is necessary to carry on a preliminary educational campaign," said Doctor Kiernan. "For several years," he continued, "the leading dairy and agricultural papers have, in almost every issue, devoted valuable space to vari-

ous topics connected with the disease and to reasons why it should be eradicated. The States and the Federal Government have generously spent funds for the printing and distribution of pamphlets, bulletins, posters, motion pictures, lantern slides, and other modes of presenting the subject to the public. Meetings have been held and addresses given. All this work must be perpetuated and intensified until the desired results are accomplished. We must keep constantly before the people helpful reading matter, for they read—and forget."

The need for educational work is especially great before area work is undertaken by the inspector. In this connection Doctor Kiernan recommended as one very successful mode of education the junior exhibit and maps. Nothing attracts a livestock owner more than to see a demonstration on reactors. Exhibitions of diseased tissue under glass have drawn the attention of thousands who could not possibly have got the same impression of the disease through the reading of bulletins.

In speaking of the organizations maintained in the various States, Doctor Kiernan said that many are entirely too small to carry on the work as it should be carried on. He strongly recommended that a sufficient number of veterinarians be available to carry on the work in conformity with the demand. He added, however, that this is a problem for each State to work out.

Definite Working Plan Valuable

The campaign for the eradication of tuberculosis of livestock has now reached the stage in most States where it seems advisable to map out a definite plan of operation for the future. Doctor Kiernan recommended the following program which has been developed by one State: The number of townships that will be completely tested in 1925; the number of counties wherein the first test or the second test will be completed in 1925; the number of counties that will be modified in 1925. The same sort of program has been planned for 1926 and 1927.

Doctor Kiernan spoke briefly on the subject of avian tuberculosis. Since it was found that a considerable percentage of tuberculosis in swine is due to avian origin, more time has been devoted to examining poultry flocks in an endeavor to free them of the disease. A map recently published by the Bureau of Animal Industry shows the extent of the disease in the various States. It is absolutely necessary that more attention be given to avian tuberculosis than heretofore, Doctor Kiernan said.

Dr. Robert Graham, of the University of Illinois, and Dr. Elmer Lash, of the

Bureau of Animal Industry, also gave talks on the subject of avian tuberculosis and its control.

"Special F" Tuberculin Proving Success

Dr. E. C. Shroeder, superintendent of the department's experiment station at Bethesda, Md., spoke on "No lesion reactors." Dr. Marion Dorset, chief of the biochemic division, Bureau of Animal Industry, read a paper on "Tuberculin," describing the researches made in its chemical properties, the advances made in its use, and the success of the new form known as "Special F."

The following field inspectors in charge of tuberculosis eradication in their respective States spoke at the meeting: Dr. James S. Healy, of Wisconsin; Dr. J. E. Gibson, of Indiana; Dr. H. M. O'Rear, of Tennessee; Dr. T. S. Rich, of Michigan; and Dr. E. A. Crossman, of Massachusetts.

Among the speakers who were not connected with the Federal Department of Agriculture were W. H. Settle, president of the Indiana Farm Bureau; Prof. H. R. Smith, livestock commissioner, National Livestock Exchange, Chicago; A. J. Glover, editor of Hoard's Dairyman, Fort Atkinson, Wis.; Dr. R. C. Julien, State veterinarian of Indiana; and Dr. M. Ravenel, professor of preventive medicine, University of Missouri.

Grain Market News Service Extended to Pacific Coast

Through the cooperation of the directors of extension of the principal western grain producing States the Grain Market News Service of the Bureau of Agricultural Economics has been extended to the Pacific coast.

In California the service is being developed primarily to meet the needs of the barley growers. In Washington, Oregon, Montana, Idaho, and Colorado the needs of the wheat farmers are receiving particular attention.

The extension directors of these States have interested the daily and farm press in the service and more than 200 papers are reported to be publishing the grain market reviews regularly. These reviews are prepared each Saturday at Washington and forwarded by leased wire to branch offices of the bureau at Minneapolis, Denver, and San Francisco, where they are mailed so as to be available to most papers in these Western States for publication on Monday.

The reviews provide the farmers with the latest information relative to the grain market developments and the factors responsible for the price trend and changes thereby placing them in a position to more intelligently market their grain.

Dr. H. L. Shantz Reports on Agriculture in East Africa

A report on agriculture in East Africa by Dr. H. L. Shantz, physiologist in the Bureau of Plant Industry, forms a supplementary chapter to "Education in East Africa," by Thomas Jesse Jones, recently published by the Phelps-Stokes Fund. A full-page review of this book in the New York Times Book Review of May 24, 1925, states that "the masterly pages prepared by Dr. Jesse Jones are supported by a strong introduction from Dr. Anson Phelps Stokes and a general review of agriculture in East Africa by Dr. H. L. Shantz, of the Bureau of Plant Industry at the Department of Agriculture, who had already published his observations of soil and animal life during a journey from the Cape to Cairo. The cooperation of this expert associates the United States Government with a notable and beneficent enterprise. For both reports Doctor Aggrey, a colored citizen of the Continent, shares responsibility with his colleagues on the commission. * * * Africa is gaining wealth, with all that this brings of good and evil. And under the precise observation of Doctor Shantz the tropical jungle shrinks to its true dimensions. He reports: 'The cultivated acreage of East Africa, exclusive of South Africa, could in time almost equal that of the United States of America, an area three and a half times the total surface of the United Kingdom and Ireland.'"

The Hon. W. G. A. Ormsby Gore, M. P., undersecretary of the Colonies, in commenting upon Doctor Shantz's report, said that Doctor Shantz suggested a way of looking at agricultural and economic problems entirely new to him and of extraordinary value.

Doctor Shantz traveled from Cape to Cairo in 1919-21 and made observations of the soil and animal life, which were published in a notable volume and in maps. In January, 1924, as a member of the Educational Commission to East Africa, he returned to that country. In reporting that trip he stated that it afforded him the opportunity to make firsthand observations of agricultural conditions in that part of the world as well as its possibilities for ultimately becoming a competitor of the American farmer. It is particularly significant that, although East Africa is an unknown factor as an exporter, the climate and soil of the East African uplands are so similar to those of the United States that a list of agricultural products, according to the census, even to-day reads like a list of products from our Middle West.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

JARDINE PRAISES BOARD'S ACTION

Predicting that similar steps would soon be taken by all contract markets in the United States, Secretary Jardine on October 10 expressed unqualified approval of the action of the Chicago Board of Trade in adopting, by a large majority, the recommendations recently made by the members' program committee. He characterized the action as "one of the most progressive steps ever taken by the board."

GERMANY IMPORTS AND EXPORTS WHEAT

Germany removed its prohibition of grain exports on October 1, and is now selling cheaper low-gluten wheat to Baltic countries and at the same time importing bread wheat from the United States and Canada, according to a cable received by the department from United States Agricultural Commissioner Schoenfeld at Berlin.

SURVEY FARM IMPLEMENT RESEARCH

The department has undertaken an exhaustive survey of the field of research relating to farm-operating equipment. The immediate objective is to find out just what has been done along this line and to outline a program for future work that will serve as a guide to the colleges, the farm implement industries, and other agencies concerned in the fundamental engineering problems of this field. J. B. Davidson, head of the Department of Agricultural Engineering, Iowa State College, has been selected to supervise the project. He will be aided by an advisory council appointed by Secretary Jardine and composed of eight representatives each of the National Association of Farm Equipment Manufacturers and the American Society of Agricultural Engineers, and three representatives of the Federal Department of Agriculture.

AMERICAN FOREST WEEK PLANS

The American Forest Week Committee held its meeting in Washington on Monday, September 28. Hon. Frank O. Lowden presided, and 39 persons were present when the meeting was called to order. Considering the size of this group and the number who responded favor-

ably to the letters of invitation, but who could not be present at the meeting, it is believed that at least 100 organizations will participate actively in the 1926 American Forest Week.

The definite steps taken at the meeting were:

1. Adoption of a more permanent form of organization.

2. Selection of Hon. Frank O. Lowden as chairman.

3. Selection of a board of directors composed of the chairman, ex officio; Mrs. John D. Sherman, General Federation of Women's Clubs; O. M. Butler, American Forestry Association; Arthur Ringland, National Conference on Outdoor Recreation; Wilson Compton, National Lumber Manufacturers' Association; R. S. Kellogg, National Forestry Program Committee; Elbert H. Baker, American Newspaper Publishers Association; Alton J. Hager, Order of Hoo-Hoo and Friends of the Forest; Robert Y. Stuart, Pennsylvania Department of Forests and Waters; and W. B. Greeley, Chief of Forest Service.

4. Selection of an executive committee composed of R. S. Kellogg, chairman; Mrs. Sherman, Elbert H. Baker, Wilson Compton, and W. B. Greeley.

5. Selection of Arthur Ringland as treasurer; Edgar P. Allen, of the National Lumber Manufacturers' Association, as managing director; and Miller Hamilton, Forest Service, as secretary. Mr. Allen and Mr. Hamilton filled those same positions last spring and are carrying on until the board makes final arrangements.

6. Adoption of a financial program, the executive committee being charged with the task of raising funds from diversified sources as far as possible.

7. Agreement upon the principle of cooperation with Canada.

8. Authorization of the board of directors to choose the date of the 1926 week, with a date the latter part of April strongly favored.

9. Definition of eligibility to membership on the American Forest Week Committee. Membership on the committee is wide open to any organization interested in forestry and kindred subjects. It will carry no financial responsibility and all activities are on a voluntary basis, though acceptance of membership carries with it the definite assumption that the organization will give support to the week in such ways as it can. Firms, corporations, and associations operated for profit are not eligible.

10. Decision to appoint State committees and State chairmen, a list of names to be furnished to Chairman Lowden from which State chairmen are to be appointed.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Utah.—A. L. Christensen, county agent in Tooele County, has been transferred to Weber County to succeed W. P. Thomas, who has resigned after 10 years of service to attend Cornell University.

Texas.—T. O. Walton, director of Texas agricultural extension service, has been made president of the Agricultural and Mechanical College of Texas and is succeeded as extension director by Charles H. Alvord. Mr. Walton has been connected with extension activities in Texas since 1909 and was director of the service, comprising some 330 workers, from July 1, 1921. He was reared on a farm in eastern Texas and has been in close touch with agricultural developments of the State. Mr. Alvord was a member of the staff of the Agricultural and Mechanical College of Texas from 1899 to 1911, resigning from the position of dean and professor of agriculture to engage in farming. From 1917 to 1919 he served as field agent of the Office of Extension Work (South) of the department, leaving to become county agent for Bexar County, Tex., his position at the time of his appointment as extension director, in 1920.

NEW DEVELOPMENTS

Twelve counties in Kentucky having home demonstration agents have completed the organization known in this State as the county homemakers' association, since July, 1924. The association is made up of women who wish to identify themselves with the home economics extension activities of the University of Kentucky and receive the benefits of the extension program. There are no qualifications for membership except interest in studying the problems of home making and willingness to give some thought, time, and effort in return for the service rendered the county by the home demonstration agent and the State specialists. The county association is made up of the various home makers' clubs in the communities. Each club is represented on the county advisory council by its local chairman. This county council acts in an advisory capacity to the home-demonstration agent, makes county-wide plans and policies, and each year plans the county program of work.

Seven counties in South Dakota have arrangements practically completed for their first home demonstration and girls' club work, activities to begin as soon after October 1 as possible.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Bureau of the Budget

CIRCULAR No. 167—October 2, 1925.—Circular No. 164, Bureau of the Budget, Washington, dated August 12, 1925, is amended to read as follows:

1. Upon the request of the Navy Department, Capt. W. S. Miller, United States Navy, is hereby relieved from further duty as coordinator, II Area, effective December 1, 1925.

2. In accordance with the provisions of Circular No. 15, Bureau of the Budget, dated July 27, 1921, and upon the recommendation of the Navy Department, Commander R. P. McCullough, United States Navy, is hereby designated as coordinator II Area. Commander McCullough will report on November 20, 1925, by letter to the chief coordinator and in person to Captain Miller for duty as his relief.

By direction of the President:

H. M. LORD,

Director of the Bureau of the Budget.

A. T. GOLDBECK LEAVES PUBLIC ROADS

A. T. Goldbeck, chief of the division of tests, Bureau of Public Roads, resigned from the department service on October 15 to become director of the bureau of engineering of the National Crushed Stone Association.

Mr. Goldbeck entered the department service in 1910 as engineer of tests in charge of physical road building investigations in the Office of Public Roads. In 1913 he resigned to become assistant engineer in charge of the Municipal Laboratory of Philadelphia, but in 1915, when the Office of Public Roads became a bureau, he returned as engineer of tests. For the past six years he has been chief of the division of tests. During this time the scope of the work of the division has greatly increased, and the results of its investigations on road materials are known in practically every part of the world. In directing this work he has originated a number of pieces of special research apparatus.

Mr. Goldbeck is widely known as a technical writer on problems of road design, having presented papers on road materials, soil-pressure tests, the structural design of pavements, researches on special bridge problems such as reinforced concrete bridge floors and skew arches, road subgrades, conclusions from highway research, and the influence of traffic on the highways.

For several years Mr. Goldbeck has represented the bureau on committees of technical societies of national importance, and in several instances has been chairman of such committees.

J. R. Boyd, assistant engineer of tests, will accompany Mr. Goldbeck as secretary of the association.

STATE EXTENSION CONFERENCES

Conferences of extension workers for discussion of matters relating to future work from a state-wide point of view have been planned in a number of States for 1925-26, as in previous years. Following are the dates for meetings which up to the present time have been decided upon:

Arizona, Tucson: December 14-17, 1925.
California, Berkeley: January 4-9, 1926.
Colorado, Fort Collins: January 12-14, 1926.
Connecticut, Storrs: October 20-22, 1925.
Georgia, Athens: January 25-30, 1926.
Idaho, Moscow: October 23-30, 1925.
Illinois, Urbana: February 1-6, 1926.
Indiana, La Fayette: January 11-15, 1926.
Kansas, Manhattan: October 19-23, 1925.
Kentucky, Lexington: October 26-30, 1925.
Maine, Orono: January 26-29 and July 6-9, 1926.
Maryland, College Park: January 19-21, 1926.
Massachusetts, Amherst: December 14-17, 1925.
Minnesota, St. Paul: December 14-19, 1925.
Montana, Bozeman: January 7-14, 1926.
Nebraska, Lincoln: October 21-22, 1925.
Nevada, Reno: January 18-22, 1926.
New Jersey, New Brunswick: October 28-30, 1925.
North Carolina, Raleigh: January 5-14, 1926.
Ohio, Columbus: October 20-24, 1925.
Pennsylvania, State College: January 11-15, 1926.
Rhode Island, Kingston: November 9-11, 1925.
South Dakota, Brookings: December 16-19, 1925.
Tennessee, Knoxville: December 7-12, 1925.
Washington, Pullman: December 9-16, 1925.
Wisconsin, Madison: October 19-24, 1925.
Wyoming, Laramie: January 11-15, 1926.

Some of the States not mentioned in the above list have already held conferences while a number of others have not yet determined the time of meeting.

The Fourth National Cooperative Marketing Conference will be held in Washington January 12-15. No details of the conference program have as yet been made public.

Dr. Felix Löhnis Resigns to Become German Professor and Citizen

Dr. Felix Löhnis, bacteriologist in charge of the office of soil bacteriology investigations, Bureau of Plant Industry, has resigned from the department, effective October 5, to return to Leipzig, Germany, to become professor ordinarius in the University of Leipzig and director of a new institute of agricultural bacteriology and soil science.

By the resignation of Doctor Löhnis the department not only loses one of its most efficient workers, but a man whose work is known throughout the world among biologists. His grasp of the literature is extraordinary, and this has been of greatest value to his associates, who no doubt will feel his absence keenly.

Doctor Löhnis was prompted to make the change because of family reasons and urgent appeals of the University of Leipzig and the Saxon Ministry of Education. In his new position he will have many graduate students, who, together with an able corps of assistants, will undoubtedly prove a great help in the upbuilding of soil biology in Germany.

As the University of Leipzig is a part of the German Government it was necessary for Doctor Löhnis to surrender his American citizenship, which he acquired six years ago, and he has returned as a German citizen. Therefore this country not only loses one of its most valued scientists, but a citizen as well.

DR. W. D. HUNTER

Dr. W. D. Hunter, senior entomologist in charge of southern field crop insect investigations, Bureau of Entomology, and a member of the Federal Horticultural Board, died suddenly at El Paso, Tex., October 13, at 6.45 p. m. Details of his death are lacking. An account of his life and service in the department will appear in a later issue of THE OFFICIAL RECORD.

W. P. Hwang, of southeastern China, is spending some time in the department for the purpose of obtaining material for use in a thesis for his master's degree from Ohio State University on social aspects of the county extension service. Mr. Hwang was born and reared in rural China, is a graduate of Southeast China University and of the agricultural college of North Carolina. He has been in this country about four years, studying for some time recently at Columbia University.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Does cod-liver oil take the place of sunshine for the growing child?

Answer. Besides foods supplying the necessary calories for energy, proteins, and minerals for body tissues, the growing organism requires foods giving certain factors, as yet not identified, which are essential for normal growth. One of these is connected with proper bone development and sometimes called the antirachitic factor. This occurs in cod-liver oil, egg yolk, and some other foods. However, when the food is lacking in this factor, sunlight, which has not been passed through glass or any substance that robs the light waves of the ultra violet part of the spectrum, will enable the animal to make normal bone growth. Certain foods may be given this "antirachitic property" when exposed to or irradiated with sunlight or an artificial source of ultra violet light such as the mercury vapor quartz light. Cod-liver oil may replace unfiltered sunlight in that it makes normal bone growth possible when sunlight is lacking.

Question. Have actual measurements ever been made of the loss of soil due to hillside erosion?

Answer. The division of agricultural engineering, Bureau of Public Roads, in cooperation with the North Carolina Department of Agriculture, has made such measurements on the experiment station farm at Raleigh. On experimental plots planted to different crops the losses of soil for one year (June, 1924, to May, 1925, inclusive), expressed in depth over the areas, were as follows: Grass, 0.0384 inch; corn, 0.1184 inch; cotton, 0.2629 inch; bare land, 0.2077 inch. Each of these plots was 75 feet long, 6 feet wide, and its long dimension had a slope of 9 per cent. The total rainfall for the year was 51.64 inches, against a 5-year average of 45.40 inches.

Question. Does the Department of Agriculture make estimates on the damage done by insect pests?

Answer. The Department of Agriculture, through the insect-pest survey, a branch of the work of the Bureau of Entomology, maintains an elaborate file of records and maps of insect abundance throughout the various parts of the United States and, as far as practicable, records the relative amount of damage done by these pests. This service has as

active collaborators practically all of the official entomologists of the United States, including the entomological staffs of the State agricultural experiment stations, State universities, agricultural colleges, State departments of agriculture, plant boards, and crop-pest commissions, as well as the field workers of the bureau. These entomologists make monthly reports to the survey, and the outstanding features of these reports are published in the form of a mimeographed monthly bulletin for the use of working entomologists. Owing to the impracticability of figuring the loss occasioned by insects in either quantity or product or in money value, this phase of the work is not stressed. It is evident that up to a certain point the destruction of the plants or fruit in a given stand will increase the quality and yield of the remaining fruit by its thinning effect; on the other hand, a reduction in the crop occasioned by insect damage is very often offset by an increase in the value of that crop owing to this same reduction.

1926 EXTENSION WORK DISCUSSED

The responsibility of the extension worker as a teacher becomes more sharply defined each year, C. W. Warburton, director of extension work, stated in a discussion of extension work for 1926 at the first of this season's weekly conferences of department workers interested in extension activities, held recently in the Office of Cooperative Extension Work. Economic information will be sought by a steadily increasing number of farmers and will be a prominent feature of extension programs both during this and succeeding years, the director believes, the extension workers serving in this, as in all other lines of work, by helping the farmer to keep in touch with and interpret for practical use all available data bearing on his problems of production and marketing.

There is evidence of increasing interest in the development of State agricultural programs based on thorough study of economic data by conferences of the farmers, business men, investigational, and extension workers of the States, Doctor Warburton finds. Several States have completed their studies and have formulated agricultural programs to cover a more or less definite number of years.

Local leadership, which has played a part of ascending importance in the progress of extension work, will be an even more potent factor, the director feels, as greater numbers of boys' and girls' club members grow to manhood

and womanhood and assume community responsibilities. Boys' and girls' club work will show the result of better planning and better supervision from extension workers in 1926, Doctor Warburton is confident, both in a larger number of farm boys and girls to whom its influence has been extended and in a higher standard of accomplishment by the club members.

Growth of forestry extension work, it was stated, is following the enactment of legislation providing for Federal and State cooperation in this endeavor. Eighteen States have completed arrangements for cooperation and are proceeding with extensive forestry programs; 12 other States have plans under consideration.

RADIO MARKET REPORTS IN EXHIBIT

"Market reports by radio" is the title of a three-panel exhibit booth shown by the Bureau of Agricultural Economics at the recent Washington radio show. This exhibit is now on display in the Bieber Building to stimulate suggestions by bureau workers for future exhibits.

The right and left panels of the booth bear maps showing the growth of the department's radio news service since its beginning in 1921, the service then being supplied through three broadcasting stations. The service for 1925 has been extended to 115 stations. None of these broadcasting stations are owned or operated by the Government, the broadcasting being a voluntary service by the various stations. The side panels of the booth bear the captions, "He that hath ears to hear, let him hear" and "Hear ye not the hum of mighty workings?" The center panel displays a large photograph of a farmer listening to the radio market reports, while his wife, who has just gathered the day's egg supply, inquires if the Government's market reports are coming. This photograph is from a booth constructed for the 1924 dairy show, that booth containing a movable film which showed typical market news radio messages. The room shown in the photograph on the center panel is one in the Surratt home, Surrattsville, Md., to which it is believed Booth fled after the assassination of President Lincoln.

Dr. E. W. Nelson, chief of the Biological Survey, left Washington last month for an extended trip through the Western States to visit various field stations of the bureau, including the newly established headquarters of the upper Mississippi River Wild Life and Fish Refuge at Winona, Minn.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

PRESERVATION OF FRUIT JUICES

The Office of Horticultural Investigations, Bureau of Plant Industry, has been carrying on studies of the whole problem of the improvement in quality of beverage juices for the past six years. The problem has a number of distinct phases, some of which are completed, while the investigational work upon others is still in progress.

One of the first problems investigated was that of developing a method of clarification which would give a permanently clear, attractive product. Such a method was successfully developed and is described in Department Bulletin 1025, issued January, 1922. This method is now in use by a considerable number of firms and has proven highly satisfactory, as it materially reduces the cost of manufacture, while producing a superior article which sells at a price materially higher than that of ordinary untreated juice. A popular presentation of the results of the work is given in Farmers' Bulletin 1264, issued in May, 1922.

Other phases of the work have included a study of the variations in chemical composition of the juice of a large number of varieties of grapes and of apples over a series of years in order to secure information as to the extent of variation in the composition of a given variety as a result of variation in climatic conditions, cultural treatment, and other varying factors. Such information was considered indispensable as a background for the development of methods of blending the juices of different varieties so as to obtain products of uniform character and quality year after year.

The results of the work with grapes, which embraces a study of some 60 varieties over a period of five years, are in press and will appear in the Journal of Agricultural Research, volume 30, No. 12. The results of a similar study, embracing a larger number of apple varieties over a longer period, are tabulated for publication in a paper which is nearly ready for the press.

Another phase of the investigation which has reached an advanced stage is a study of the chemical changes produced by pasteurization in both apple and grape juices and of methods of reducing these changes to a minimum by improved methods of treatment prior to

pasteurization, so as to preserve the composition and quality of the fresh juice in the pasteurized product. Some portions of this investigation are completed and work upon other phases is approaching completion, so that it is the present expectation that the work will be written up during the next year.

The general purpose of the whole investigation has been, first, to develop such methods of preparation of fruit juices as would give products of attractive appearance and uniform quality, and, second, of means of employing surplus and unmarketable grapes and apples now unused for the production of juice, thus widening the production of beverage juices.

Successful attack upon these phases of the problem has necessitated a great deal of investigation of the chemical nature and behavior of the juices of the different varieties, such information being necessary as a prerequisite to the methods of blending which would give uniform products of acceptable quality.

WITH EXTENSION FORCES

LIME WHEN THE FARMER WANTS IT

"We know we need lime," the farmers of Robertson County, Tenn., told their new county agent in January, 1923, "but under present circumstances we can not afford to buy it." To find something which could be done to remedy the "present circumstances" seemed to C. H. Moody, the new agent, the problem to write in the lime program. The previous year 495 tons of lime had been used in the county. Two years' work on the problem followed, and in 1924 Robertson County farmers put 10,000 tons of lime on their fields.

First, a coal and ice company in the county seat was convinced that farmers within hauling distance would buy lime if they could get it at a reasonable price and with reasonable convenience. This company put in a good supply of lime, stored it in a dry bin, and delivered any quantity desired into the purchaser's wagon through a coal chute any day he might want to haul it home.

A little prospecting about the county showed limestone bluffs in nearly all localities. Samples sent to the State laboratories tested from 93 to 98 per cent lime. Arrangements were made to crush this for use in the immediate vicinity. These arrangements usually consisted of the agreement of individual farmers in the community to take a definite amount of lime, the minimum for any one farmer being 50 tons. When a worth-while amount had been guaranteed, one of the

five pulverizers in the county which had been standing idle was brought into the community and started, or someone in the neighborhood with an engine purchased a crusher and started operations. There are 15 portable machines and one larger stationary pulverizer now at work in the county. About 80 per cent of the lime used has been ground by these machines. Some of the crushers are commercial outfits, moving anywhere in the county for a set of about 300 tons. Experienced crews accompany them, and the output averages 4 or more tons per hour. Several farmers and some communities own and operate their own crushers.

Those communities near railway stations could buy ground limestone in carloads and haul to farms, and some has been obtained in this way.

A thoroughly sympathetic editor followed each step in developments with news of distinctly local interest.

These sources of lime were established only after much time and hard work, but good lime is now available in every part of the county at a cost of from \$2.50 to \$3.50 a ton. In 1923, the first year of the campaign, 4,000 tons were used. In 1924 a goal of 10,000 tons was set and reached.

ELEVEN STATES HOLD 4-H CONFERENCE

The first annual 4-H club members' conference to be held at War Eagle Camp, Interstate Fair, Sioux City, Iowa, was in session this year each day of the camp, September 20-25. One hundred club members represented 11 States—Illinois, Iowa, Kansas, Minnesota, Missouri, Montana, North Dakota, South Dakota, Nebraska, Ohio, and Wyoming—in the conference. A number of club matters of importance were presented at the meetings by club leaders and discussed by the club members. Among the topics discussed were "The county conference for local club leaders," "How club work functions in the county extension program," "How to organize a club," "Building a program for a local club," "How to conduct a club meeting," "How to select and train a demonstration team," and "The club achievement day." The conference was under the direction of R. A. Turner, field agent in club work, north central division, Office of Cooperative Extension Work.

About 200 farm boys and girls attended War Eagle Camp this year and participated in the activities for club members at the fair. Each of the 12 States entered demonstration and judging teams. The camp was in charge of a committee composed of P. C. Taff, State club leader of Iowa extension service, chairman; L. I. Frisbie, State club agent, Nebraska extension service; and Josephine E. Arndquist, assistant State club leader, Iowa.

BRIEF REVIEWS OF NEW BULLETINS

Commercial Dehydration of Fruits and Vegetables. By P. F. Nichols, Ray Powers, and C. R. Gross, laboratory of fruit and vegetable chemistry, and W. A. Noel, office of development work, Bureau of Chemistry. Pp. 40, figs. 10. September, 1925. (Department Bulletin 1335.) Price, 10 cents.

This bulletin discusses the various methods which have been worked out for the commercial drying of fruits and vegetables. It describes in detail such phases of the industry as the location of the plant, the selection of material, and its preparation for drying, curing, packing, and storing. The publication is intended primarily for those who either have decided to enter or are already in the dehydration industry. The information will enable beginners to proceed with fair assurance of being able to prepare satisfactory dehydrated fruits and vegetables and will assist those now engaged in the work to improve their methods.

Biological Studies of the Green Clover Worm. By Chas. C. Hill, assistant entomologist, cereal and forage insect investigations, Bureau of Entomology. Pp. 20, figs. 15. September, 1925. (Department Bulletin 1336.) Price, 5 cents.

Following a nine-year study of the subject, the life history of the green clover worm, long recognized as a pest of wide distribution and injurious to various crops, such as alfalfa and clover, has been written and published in this bulletin. The bulletin embodies the technical details of the biology of the green clover worm and should be of value and interest to entomologists. It also describes control measures against this pest in alfalfa fields.

Strawberry Diseases. By Neil E. Stevens, pathologist, office of fruit-disease investigations, Bureau of Plant Industry. Pp. 10, figs. 5. August, 1925. (Farmers' Bulletin 1458.) Price, 5 cents.

This bulletin describes the more important diseases of strawberries and contains an account of such control methods as are of proved value. The great variety of conditions under which the strawberry is grown necessitates different methods of culture and handling. Methods of control of strawberry diseases must be adapted to local conditions.

An Improved Type of Pressure Tester for the Determination of Fruit Maturity. By J. R. Magness, physiologist, and George F. Taylor, associate biophysicist, office of horticultural investigations, Bureau of Plant Industry. Pp. 8, figs. 3. September, 1925. (Department Circular 350.) Price, 5 cents.

Pressure on the fruit with the thumb to determine the maturity has probably been practiced as long as fruits have been eaten by man but this method is too indefinite for modern demands of fruit dealers and handlers. This need for definite picking standards for certain fruits which will allow them to be left on the tree as long as possible and at the same time assure their carrying through to market in satisfactory condition has led the department to devise an improved type of mechanical pressure tester, a description of which is given in this circular. The pressure tester is somewhat on the order of an automobile tire-pressure gauge, is of convenient portable size, and easy to use. A protruding plunger of the tester, placed against the flesh of an apple or other fruit penetrates the flesh, recording the maximum pressure required to penetrate the fruit to a given distance, thus giving an indication of its maturity.

Simple Plumbing Repairs in the Home. By George M. Warren, associate hydraulic engineer, Bureau of Public Roads. Pp. 14, figs. 14. September, 1925. (Farmers' Bulletin 1460.) Price, 5 cents.

The ability on the part of the householder to make minor or emergency plumbing repairs often saves much trouble, delay, and expense, according to this bulletin. Plumbing frequently gets out of order, and prompt attention to small repair jobs is necessary to its smooth, satisfactory operation. The bulletin explains how to do these jobs with a few simple tools. It also contains numerous illustrations and instructions relative to repairing leaks in pipes, hose, and tanks, as to thawing underground or otherwise inaccessible pipes, mending flush valves, cracked laundry tubs, removal of scale from waterbacks and coils, and other similar repair jobs.

Improved Oat Varieties for New York and Adjacent States. By H. H. Love, professor of plant breeding, New York (Cornell) Agricultural Experiment Station, and collaborator of the office of cereal investigations; J. H. Stanton, agronomist in charge of oat investigations, office of cereal investigations; and W. T. Craig, agent, office of cereal investigations, Bureau of Plant Industry. Pp. 15, figs. 6. August, 1925. (Department Circular 353.) Price, 5 cents.

Tested on New York farms for a period of four years, 1921 to 1925, each of the six high-yielding oat varieties described in this bulletin gave an average yield of more than 50 bushels per acre. The investigational work to develop these high-yielding varieties was undertaken because of the important place the oat crop holds in the agriculture of New York, and because the general average of the crop over the entire State has been but 31.9 bushels per acre for the past 16 years. This low yield has been due in part to the use of poorly adapted and low-yielding varieties.

Articles in Current Publications
by Department Workers

Ashbrook, Frank G., and Horace J. McMillan (Biological Survey). A preliminary study of statistical data on the fur resources and the fur trade. Yearbook, National Association of the Fur Industry, pp. 5-34, 1925.

Barnes, W. C. (Forest Service). Diary of a Forest Ranger's Wife. Saturday Evening Post, September 19, 1925.

Brown, N. A. (Plant Industry). A note on a rot of the Smyrna fig in California. Science, vol. 62, p. 288. Sept. 25, 1925.

Chamberlin, T. R. (Entomology). Some observations upon *Necrocnus leucarthros* (Nees) (Hymenoptera: Eulophidae). Proceedings of the Entomological Society of Washington, vol. 27, No. 7, pp. 142-144, October, 1925.

Charles, V. K. (Plant Industry). Mushrooms—How to tell whether edible or poisonous. National Health, vol. 7, pp. 542-543, 586, August, 1925.

Coleman, D. A., and H. C. Fellows (Agricultural Economics). Hygroscopic moisture of cereal grains and flaxseed exposed to atmosphere of different relative humidity. Cereal Chemistry, September, 1925.

Covgill, H. B. (Plant Industry). A new variety of sorgo having recurved peduncles. Journal of American Society of Agronomy, vol. 17, No. 9, p. 533-537, September, 1925.

Cushman, R. A. (Entomology). Some generic transfers and synonymy in Ichneumonidae (Hym.). Journal of the Washington Academy of Sciences, vol. 15, No. 16, pp. 388-392, October 4, 1925.

Davis, E. M. (Forest Service). Standardization of softwood factory lumber grades. West Coast Lumberman, September 15, 1925.

Ewing, H. E. (Entomology). Two new chiggers (Trombicula larvae). Proceedings of the Entomological Society of Washington, vol. 27, No. 7, pp. 145-146, October, 1925.

Ezekiel, M. (Agricultural Economics). Assumptions implied in the multiple regression equation. Journal of American Statistical Assn., September, 1925.

Forbes, R. D. (Forest Service). Logging: The key to forestry. Southern Lumberman, October 3, 1925.

Graves, R. R. (Dairying). Improving dairy cattle by the continuous use of the proved sire. Journal of Dairy Science, vol. 8, No. 5, p. 391-404.

Leopold, A. (Forest Service). The last stand of the wilderness. American Forests and Forest Life, October, 1925.

McAtee, W. L. (Biological Survey). The buff-backed egret (*Ardea ibis* L., Arabic *Abu Qerdan*) as a factor in Egyptian agriculture. (A review.) The Auk, vol. 42, No. 4, pp. 605-604, October, 1925.

Sun brother (Review). The Auk, vol. 42, No. 4, pp. 602-603, October, 1925.

Mason, P. W. (Entomology). A revision of the insects of the aphid genus *Amphorocera*. Proc. Ent. Soc. Wash., vol. 27, No. 7, pp. 1-92, pls. 1-18, 1925.

Monteith, John, Jr. (Plant Industry). August experiments for control of brownpatch at Arlington experimental turf garden. Bulletin of the Green Section, U. S. Golf Association, vol. 5, pp. 202-203, September, 1925.

Leaf-spot of bluegrass. Bulletin of the green section, U. S. Golf Association, vol. 5, pp. 198-199, September, 1925.

Moznette, G. F. (Entomology). A pest in the mango nursery. Quarterly bulletin of the Florida State Plant Board, vol. 9, No. 3, pp. 121-122, April, 1925.

Munger, T. T. (Forest Service). Eastern Impressions. Yale Forest School News, October, 1925.

Piper, C. V., and W. E. Stokes (Plant Industry). Centipede grass (*Eremochloa ophiuroides*). Bulletin of the Green Section, U. S. Golf Association, vol. 5, pp. 197-198, September, 1925.

Schaus, William (Entomology). New species of *Epipachniinae* in the Carnegie and National Museums. Annals of the Carnegie Museum, vol. 16, No. 1, pp. 9-48, pls. 1-14, July, 1925.

Seuffer, The H. (Biological Survey). Notes on the breeding of beavers. Journal of Mammalogy, vol. 6, No. 2, pp. 129-130, May, 1925.

Snyder, T. E. (Entomology). Flying ants in the house. Better Homes and Gardens, vol. 4, No. 2, pp. 22-33, illus., October, 1925.

How insects damage wood. Save the Surface Magazine, vol. 5, No. 4, p. 11, September, 1925; vol. 5, No. 5, pp. 6-7, October, 1925.

Vickery, R. A. (Entomology). List of parasitic insects reared from host insects collected in the vicinity of Brownsville, Tex. Proceedings of the Entomological Society of Washington, vol. 27, No. 7, pp. 137-141, October, 1925.

Weiss, Freeman (Plant Industry). Some causes of storage losses. Potato News Bulletin 2, pp. 368-372, September, 1925.

Weld, Lewis H. (Entomology). Honeydew from oak galls. The American Bee Journal, vol. 65, No. 10, p. 469, October, 1925.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 5-10, 1925. Copies of these publications may be obtained from the stations issuing them.

Machines for coating wheat with copper carbonate dust. A. H. Hoffman and H. L. Belton. (California Sta. Bul. 391, pp. 16, figs. 13. Sept., 1925.)

Fruit juice concentrates. J. H. Irish. (California Sta. Bul. 392, pp. 20, figs. 5. Sept., 1925.)

The organization and direction of girls' 4-H clubs in food projects. G. B. Armstrong and N. Vasold. (Illinois Sta. Circ. 300, pp. 28, figs. 3. Aug., 1925.)

Diseases of cucumbers and melons in Iowa. I. E. Melus and O. H. Elmer. (Iowa Sta. Circ. 99, pp. 16, figs. 7. July, 1925.)

The loco weed and its effect on livestock. F. C. Gates. (Kansas Sta. Circ. 115, pp. 4, fig. 1. Aug., 1925.)

Strawberry growing in Kansas. R. J. Barnett. (Kansas Sta. Circ. 116, pp. 16, figs. 6. Aug., 1925.)

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Belgium. Ministère de l'agriculture et des travaux publics. Notice sur l'économie rurale et l'organisation administrative de l'agriculture. Bruxelles, 1913.

Paterson, W. G. R., ed. Farm crops. London, Gresham publishing company, 1925.

FOOD

Smith, G. C. What to eat and why. 2d ed. Philadelphia, Saunders, 1915.

RUGS

Lewis, G. G. The practical book of oriental rugs. 5th ed. Philadelphia, Lippincott, 1920.

CHEMISTRY

Bailey, C. H. The chemistry of wheat flour. New York, Chemical catalog company, 1925.

Oehrl, H. A. Über quantitative mikroskopalische Bestimmung von Coffein und Theobromin und alkaloidbestimmung bei purindrogen. Weida i. Thür., Thomas & Hubert, 1923. Inaug.-diss.

Piery, A. M., and Milhaud, M., Les eaux minérales radio-actives. Paris, O. Doin, 1924.

SMOKE

Cohen, J. B., and Ruston, A. G. Smoke: a study of town air. New ed. London, Arnold, 1925.

ENGINEERING

Barton, W. H., and Doane, L. H. Sampling and testing of highway materials. New York, McGraw-Hill, 1925.

Leighou, R. B. Chemistry of engineering materials. 2d ed. New York, McGraw-Hill, 1925.

Taylor, F. W., Thompson, S. E., and Smulski, Edward. Concrete, plain and reinforced. 4th ed. New York, Wiley, 1925.

BACTERIOLOGY

Falsett, P. G. W. Morphologische und biologische vergleichsprüfungen des erregers des cryptosporidiosis Rosenbach mit dem schweine-erotiaufbazillus und dem bazillus murisepitici. Berlin, 1924. Inaug.-diss.

Friedrich, Arthur. Beitrag zur biologie des Bacillus murisepitici. R. Koch. Berlin, 1924. Inaug.-diss.

BOTANY

Die natürlichen pflanzenfamilien. 2. aufl. 1, 21. Leipzig, W. Engelmann, 1925.

Hard, av Segerstad, Fredrik. Sydensvenska floras växtgeografiska huvudgrupper. Malmö: Förlagsaktiebolaget i Malmö boktryckeri, 1924.

ECONOMICS AND STATISTICS

American bankers' association. Commission on commerce and marine. The South American west coast: an economic and financial survey of Chile, Bolivia, and Peru. Peru, New York, 1925.

Bavaria. Statistisches landesamt. Die wirtschaftlichen grundlagen der bayer. kommunalverbände für die lebensmittelversorgung. München, 1918.

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American association of ice and refrigeration. Committee on papers and lectures. Bibliography of American literature relating to refrigeration, 1920-1921. Chicago, 1922.

OLD BOOKS

Buch'hoz, P. J. Plantes nouvellement découvertes. Paris, Auteur, 1779.

Curtis, William. Linnaeus's System of botany. London, Author, 1771.

Dietrich, C. F. Pflanzenreich nach dem neuesten natursystem des Carl von Linné. J. D. Müller, 1770.

Hotton, Petrus. Thesaurus phytologous. Nurnberg, J. L. Buggel und J. A. Seitz, 1788.

Lawson, William. A new orchard and garden. London, G. Sawbridge, 1676.

Liger, Louis. La culture parfaite des jardins fruitiers et potagers. Paris, D. Beugnie, 1702.

Liger, Louis. Traité facile pour apprendre a elever des figuiers. Paris, D. Beugnie, 1702.

Mattioli, P. A. Commentarii in VI. libros Pedacii Dioscoridis Anazarbei de medica materia. Venetis, apud F. Valgrisiun, 1583.

Savi, Gaetano. Materia medica vegetabile toscana. Firenze, Molini, Landi e co., 1805.

Schaböl, J. R. La théorie du jardinage. Nouv. ed. Paris, Frères Debure, 1774.

Schleiden, M. J. The plant: a biography, in a series of popular lectures. 2d ed. London, H. Baillière, 1853.

Thaer, A. D. Einleitung zur kenntniss der englischenlandwirtschaft. Hannover, Hahn, 1800-01.

Weston, Richard. The gardener's and planter's calendar. London, T. Carnan, 1773.

CIVIL SERVICE ANNOUNCEMENTS

Senior forester, \$5,200; senior forest economist, \$5,200; forester, \$3,800; forest economist, \$3,800; associate forester, \$3,000; associate forest economist, \$3,000; assistant forester, \$2,400; assistant forest economist, \$2,400. Vacancies in the Forest Service and in positions requiring similar qualifications will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$6,000 a year for senior forester and senior forest economist, up to \$5,000 a year for forester and forest economist, up to \$3,600 a year for associate forester and associate forest economist, and up to \$3,000 a year for assistant forester and assistant forest economist. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close November 17.

Assistant physiological plant anatomist, \$2,400. A vacancy in the Forest Products Laboratory, Madison, Wis., and vacancies in positions requiring similar qualifications, will be filled from this examination. After the probationary period required by the civil service act and rules advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close November 17, 1925.

Senior statistical clerk, \$1,860; statistical clerk, \$1,680. Vacancies occurring in the Departmental Service, Washington, D. C., will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$2,400 a year for senior statistical clerk and up to \$2,040 a year for statistical clerk. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close November 7.

Cotton classer's helper, \$1,500. Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$1,860 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close November 7.

URGES MORE UNIFORM

COTTON RULES ABROAD

(Continued from page 1)

France is almost back to pre-war production, having taken nearly 1,000,000 bales of American cotton this year. Costs of production in France are low because of cheap money. Belgian mills have also made money. Mills in both France and Belgium show a considerable improvement since the war, much modern machinery having been installed and new manufacturing methods adopted.

First Comprehensive Study

European markets are very much interested in his studies, Doctor Cox says, and offered him every reasonable facility for obtaining the required information. It is the only time such a comprehensive study has ever been attempted. It is generally looked upon as being of immense value to the entire cotton trade.

Doctor Cox's trip was made primarily to make an analysis of the markets at Liverpool, Bremen, Havre, Milan, Barcelona, Ghent, Rotterdam, Antwerp, and Manchester. A detailed report of his studies of market movements, contracts, hedging, cotton financing, weight settlements, and the like is now being prepared for formal publication by the Bureau of Agricultural Economics.

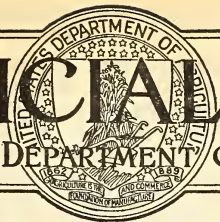
Doctor Cox has been elected a professor in the School of Business Administration of the University of Texas and is expecting to tender his resignation when he has completed his report, presumably about December 31.

Thirteen champion 4-H club members of West Virginia, with W. H. Kendrick, in charge of club work, and Pauline Spangler, girls' club agent, West Virginia extension service, visited the department during the week of October 3. They had been in Springfield, Mass., representing the West Virginia club members at Camp Vail, with visits to Boston, New York, and Washington as additional awards. Points of interest about the Capital were seen and visits made to the Extension Service and other offices in the department of interest to the club boys and girls.

The stockmen of Bannock Valley, Idaho, a small territory not connected with a national forest, have promised to raise \$850 for the use of the Biological Survey in its predatory-animal control work in that region. Luther J. Goldman, leader in predatory-animal control in Idaho, plans to place a full-blooded Bannock Indian on the job to work under the supervision of Bert S. Wilkins, a hunter now working in the Cache Forest. This man is at present serving as Indian ranger on the Fort Hall Indian Reservation and has been a valuable aid to Mr. Wilkins.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., OCTOBER 28, 1925

No. 43

MAY OVERPLANT WHEAT SAYS THE SECRETARY

Calls Attention to Past Conditions and Possibilities of Foreign Competition Next Year

Farmers are wisely looking beyond this year while seeding or preparing to seed for next year's wheat harvest, Secretary of Agriculture W. M. Jardine declared in a statement issued recently. Wheat next year may be on an export basis, he said, if farmers carry out their expressed intentions to increase their wheat acreage and realize normal yields. In planning their wheat acreage, he declared, farmers should give consideration to the growth of foreign competition in wheat production. Following is the Secretary's statement:

"From intentions expressed by the farmers it appeared that the prices for wheat at the beginning of the season were causing them to plan to increase the area seeded. It is mainly, however, a partial crop failure, which has reduced the production of many classes of wheat below domestic needs, and which together with the tariff has caused farmers to receive prices somewhat better than at the beginning of the season last year.

Other Countries Grow More

"It seems probable that the market has already completely discounted all the bearish factors in the wheat situation for this year. The Department of Agriculture has made public in this country estimates of production in foreign countries as they were issued and called attention to the various factors in the situation.

"As stated in the outlook report issued by the department in September, if farmers carry out expressed intentions to plant more wheat and realize normal yields, all wheat next year may be upon an export basis and have to meet competition in foreign markets without tariff protection.

"Foreign competition is increasing. In Europe the countries that were affected by the war are recovering. The area sown to all grain in Russia is estimated to be 194,000,000 acres, compared with 186,000,000 acres last year and 126,000,000 acres in 1921. This shows a marked recovery since 1921. The area in wheat is not separately reported, but it is apparent that it must be recovering rapidly and that large Russian exports may soon have to be reckoned with. In the meantime competition in other exporting countries has increased enormously. The wheat area of Australia, Argentina, and Canada is now more than 50 per cent above the pre-war average. These facts should be carefully considered by farmers in planning for wheat production in this country."

"Intentions to Plant" Show More Sown

In the outlook report referred to by the Secretary it was stated that the favorable market position of wheat producers this year is largely due to the fact that our market is now on approximately a domestic basis. "Intentions to plant" reports obtained in August indicated farmers throughout the winter-wheat belt were planning to increase their wheat acreage 9.7 per cent over the acreage sown last fall. The 1924 fall-wheat acreage was 6.5 per cent greater than that sown in the preceding year. Fulfillment of these intentions, the department said, would give a wheat acreage of about 46,400,000 acres. This area, with abandonment not greater than the average, and with average yields, would produce a winter wheat crop about 40 per cent greater than that harvested in 1925.

In 1924 the United States had a large crop of wheat while competing countries had relatively poor crops. Such a condition, the department has observed, can not be expected to recur very often. Yet it is the only condition which can bring about a market situation comparable to that of 1924-25, when American farmers disposed of large quantities of wheat in foreign markets at good prices.

This year not enough hard red winter and soft red winter wheats have been

(Continued on page 8)

CAMPAIGN URGES USE OF PYROTOL

Department Cooperates in Effort to Distribute Surplus War Explosive

The department is aiding the agricultural extension services of a number of States in carrying on newspaper publicity campaigns with regard to pyrotol, the surplus war explosive now being distributed to farmers for land clearing. This particular explosive has been distributed since August, 1924, cooperative agreements having been entered into with 33 State extension services and other State agricultural agencies to handle the State distribution. This plan has been found to be particularly advantageous, since shipments must be made in carload lots. The State agency handles the details of local distribution and supplies information as to the cost and use of the explosive either directly to the user or through local papers.

Fall is Best Time for Blasting

As the season is now at hand when the farmers of many sections find the most time for land clearing, some of the State agencies have requested that the department supply them with suitable material for use in a campaign. Such material has been prepared and forwarded to the State agencies. The articles of the series are entitled, War Salvaged Explosives, Get Out the Tramp Stump, Seasonal Use of Pyrotol, Safety First with Pyrotol, Stumps Can be Removed at Small Cost, Beware of Blasting Caps, Pyrotol a Safe Explosive. These are intended, first, to insure a safe handling of explosives and caps and, second, to stimulate the removal of stumps and stones in cultivated fields.

According to the first article, "War Salvaged Explosives," more than 12,000 pounds of pyrotol has already been used by farmers with good results. Compared with a case of commercial agricultural dynamite, a case of pyrotol is about one

and one-half times as effective. Furthermore, pyrotol is a nonfreezing explosive and can be used without causing headaches or other ill effects. If stored in a dry place, it will keep for at least several months without deterioration. The Government makes no charge for the ingredients of pyrotol, but the farmer is required to pay the cost of preparing and cartriding it and the freight charges.

Tramp Stumps Lower Land Values

The department advises farmers to get out the "tramp" stumps, because they hinder cultivation and cause a waste of land. "Tramp" stumps apply generally to those stumps which, single or in small groups, are found scattered about a cultivated field. This type of stump is not only a nonproducer but its presence prevents the land it occupies from producing any crop, and it is also a very active agent in making trouble for the farmer; hence the necessity for getting rid of it. Recently when an old lightwood stump was blasted out of a Mississippi field 14 plough points were found in the stump and its roots. If each plow point cost a dollar, that stump had cost its landlord \$14, to say nothing of the time of men and teams lost while repairs were being made. By the use of this Government surplus explosive the stump was removed at a cost of 30 cents.

A Federal farm loan bank appraiser for the southeastern district has said that when a farmer removes the stumps from his cultivated fields he increases the loan value of his field 100 per cent; and then, because of the industry and initiative shown by the farmer in having this work done, he added another 100 per cent to its loan value, thereby demonstrating that he is a better risk for the bank than a farmer who continues to try to make a crop among the tramp stumps.

Ground Should Generally be Wet

The article entitled "Seasonal Use of Pyrotol" states that the best time to use pyrotol, or any other explosive, for blasting stumps is when the ground is wet. The explanation for this lies in the fact that when the ground is dry it contains numerous pores and air spaces which offer an outlet for the quickly expanding gases formed by the explosion; when these spaces are filled with water, which can not be compressed, a much greater part of the force of the explosion is exerted on the stump. On the other hand, when blasting holes in which fruit trees are to be set out the ground should be dry, because in wet clay soils a blast would compact the clay, thereby preventing the roots from penetrating readily in all directions.

"Safety First With Pyrotol" recommends certain methods which experience has shown to be safe, economical, and almost foolproof. Users of explosives are warned especially against hangfire—the charge which does not explode when it should. The hangfire itself hurts nothing, but the accident occurs when the blaster goes back to see why the charge did not go off.

By using a homemade stump puller for pulling those stumps which may be too small to blast out economically, or for pulling out the pieces of larger stumps which may remain in place after blasting, costs may be greatly reduced. If the stumps are loaded lightly so that the charge of pyrotol does nothing more than split and loosen them, and the pieces are then pulled, less pyrotol will be used per acre of land and a larger area can be freed of stumps with the same cash outlay.

Beware of Blasting Caps

With the influx of pyrotol the use of blasting caps will necessarily be increased. As these caps are filled with a very sensitive and violent explosive, and may be fired either by shock, heat, or fire, the department warns the users of pyrotol to "Beware of Blasting Caps." In particular, they should be kept where children can not get at them. Millions of caps are used all over the country each year, and the accidents with them are comparatively few, but the blaster at all times must be on his guard when handling them, and especially should he be watchful to prevent their falling into the hands of children.

"Pyrotol a Safe Explosive" deals with the details of safe handling of pyrotol. Although pyrotol is as safe as any of the commercial dynamites, it is no safer. Although all explosives are made for the purpose of exploding with great violence when fired, they are also made so that they can be handled with safety, and all operations necessary in preparing them for doing their work can be performed with safety by following certain common-sense rules. It is a peculiar thing that accidents usually occur to those who have handled explosives for a long time rather than to those who are just beginning to use them. The reason for this is that "familiarity breeds contempt," and the man who has used explosives for years without accident finally gets to the point where he thinks the ordinary precautions are unnecessary and either through recklessness or indifference he adopts short cuts or unsafe methods with disastrous results.

The Government is not distributing this explosive to farmers because it is a better explosive than commercial dynamites,

as this is not the case, nor is it doing so because the Department of Agriculture wishes to go into the business of making and selling explosives. It is being done because it is the only feasible way in which an economical use can be made of the surplus war explosives.

Home Demonstration Agents Return from Study Abroad

Nine county home-demonstration agents who went abroad this spring for three months' study in special lines of work returned to their counties the first and second weeks in October. Blanche Heard, agent for Limestone County, Ala., who was due to return to her work at an earlier date than the remainder of the party, arrived first, coming by way of Washington and spending October 3 in the department. The other members of the party—Sarah E. King, Houston County, Ala.; Flora A. Ferrill, Lee County, Ark.; Mary Alice Larche, Tallahatchie County, Miss.; Ida Morgan, Leflore County, Miss.; Lois Godbey and Mosel Preston, Polk County, Fla.; Nausfleet Grimes, Motley County, Tex.; and Lucile Cawood, who is not yet assigned to a county, returned by a later boat and went directly from New York to their headquarters.

Their first work abroad was in Denmark, where they went for first-hand information regarding the standardization and cooperative marketing of farm home products. Their itinerary in Denmark was planned by Miss Ulla Christensen, who had recently studied home-demonstration work in the United States.

Special demonstrations in food-preservation methods were given for the party at the research station of Bristol University in England. At Loughton they made gloves and other articles of apparel from pelts of small animals, such as rabbits, goats, sheep, and calves, in the classes of the women's institutes.

In France the agents had, first, two weeks' training in French cookery under Madame Lucile de Vouge, in charge of home-economics work under the Ministry of Agriculture. Different typical French menus were made up by the agents for each day of the course and alternating groups prepared and served each day the meals outlined in the menus for that day. Following this course, they studied designing and making of articles from calfskin in a private studio of applied art in Paris. Short tours through farming sections of Belgium, Holland, and Switzerland were also made.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

SECRETARY CALLS BULB CONFERENCE

A conference to afford opportunity for a full reconsideration of the restrictions on the entry of narcissus and certain other bulbs authorized nearly three years ago, to become effective January 1, 1926, will be held by the department at Washington at 10 o'clock, Monday, November 16. As pointed out recently, these restrictions have been the subject of wide discussion, both favorable and adverse. The Secretary of Agriculture therefore authorized a thorough review of the situation and the assembling of all available information. The results of this investigation will be presented at the conference, which will be open to all persons interested.

110 COUNTIES REACH T B-FREE GOAL

One hundred and ten counties in the United States have eradicated bovine tuberculosis from within their boundaries, according to a summary of progress issued by the department covering eradication work up to October 1, 1925. These counties, known as modified accredited areas, have completed the testing of all cattle within their borders and removed all of the infected cattle. The 110 counties now on the free list represent a gain of 10 counties over the preceding month and show noteworthy progress compared with the status of the area work at the beginning of the calendar year, when 53 counties were on the modified accredited list.

ESTIMATE FLORIDA CITRUS FRUITS

Shipments of citrus fruits from Florida for the current crop year are now forecast by the department at 11,000,000 boxes of oranges, including tangerines, and 6,500,000 boxes of grapefruit, a total of 17,500,000 boxes. Florida last year shipped 11,000,000 boxes of oranges and 8,200,000 boxes of grapefruit, a total of 19,200,000 boxes. A rapidly increasing quantity of fruit is being sold for local consumption in addition to these shipments, the department says. Present forecasts are substantially below those issued last month because growers report that only 76 per cent of a full crop of oranges is now expected, whereas last month they expected 86 per cent of a full crop. A similar reduction for

grapefruit was reported by growers, only 73 per cent of a full crop now being expected. Growers report heavy dropping and some splitting of fruit during September.

SOUTHERN HEMISPHERE WHEAT CROPS

The Australian wheat acreage for grain is reported to the department by the International Institute of Agriculture at Rome to be 10,500,000 acres against 10,755,000 acres harvested last year. There is also a considerable acreage of wheat sown for hay in Australia and the grain acreage may be increased or decreased, depending upon the favorable or unfavorable conditions of the season and markets.

PURNELL ACT STIMULATES RESEARCH

Research in certain phases of home economics conducted by the agricultural experiment stations has received a fresh impetus through the passage of the Purnell Act last February. Up to the end of September 29 research projects in home economics had been approved for 1925-26 in 19 States under the provisions of the bill. This bill is not different in nature from the Hatch and Adams Acts, but it extends the fields of possible research beyond those covered by the earlier acts. It provides additional funds and specifically indicates the desirability of research in agricultural economics, rural sociology, and home economics, three relatively undeveloped fields.

EGG-PACKING STUDY MADE

The economy of careful packing of eggs has been demonstrated in a series of shipments to test the comparative efficiency under commercial conditions of eight different methods of packing eggs in cases and two methods of buffering or bracing the cases in the cars. The eggs carried through to market with comparatively little damage. The tests were made recently under the auspices of the interrelations committee, representing egg case and filler manufacturers, shippers, railway and express companies and receivers in cooperation with the Bureau of Agricultural Economics of the department. A mimeographed report entitled "Comparative efficiency of various methods of packing, loading, and bracing eggs" has been issued which describes the tests and gives the data secured in detail. Copies of this report may be obtained on application to the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

Department Fire Films Help Canadian Forest Fight

That Canadian forests are cobenefactors of the conservation and antiforest fire campaigns being waged in the United States through the medium of the educational motion-picture service of the department is shown in a letter to the Department of Agriculture from Robson Black, secretary of the Canadian Forestry Association.

"We have used six or seven copies of 'Red Enemy,' the forest-fire film," wrote Mr. Black. "It has been shown in almost every part of the Dominion to scores of thousands of people, even in the more remote districts, and we are planning for a new supply of forest-protection movies for the coming winter and the fire season of 1926, so we again have to apply to you for aid. Have you any new ones to supplement the educational service done by 'Red Enemy'?"

STUDY GIPSY MOTH PARASITES ABROAD

R. T. Webber and P. B. Dowden, entomologists of the department who have been investigating the gipsy moth and the brown-tail moth and their natural enemies in central Europe during the last six months, have returned to the gipsy-moth laboratory of the Bureau of Entomology at Melrose Highlands. Forest areas and entomologists were visited in Germany, Poland, Austria, Hungary, Yugoslavia, Czechoslovakia, Bulgaria, and Rumania. Mr. Webber and Mr. Dowden report that no infestations of sufficient intensity to allow for the carrying on of parasite introduction work were found in any of these countries except Hungary and Czechoslovakia.

The areas in Poland and Hungary where gipsy-moth-parasite work was conducted the previous year were practically free of gipsy-moth infestations this year and new infested areas had to be found. Suitable infestations were located at Baja, in the southern part of Hungary, and at Bilkly, in northeastern Czechoslovakia. At these points temporary laboratories were established, where parasite work was conducted during the season; from 300,000 to 400,000 gipsy moth larvae and pupae were handled at each of these locations and several fine parasite importations were made.

As a result of this work, together with the work conducted by S. M. Dohanian in Spain and Portugal, approximately 40,000 parasitic tachina flies have been placed in hibernation at the laboratory at Melrose and over 5,000 adults of multibrooded tachina flies were liberated in gipsy moth infestations in New England during the summer.



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NEW BIRD RESERVATION CREATED

By Executive order dated October 21, 1925, the President has set aside a small island at the southern end of Mosquito Lagoon, on the east coast of Florida, as a breeding ground and refuge for birds, to be known as the Brevard Reservation. This island is now occupied in part by the colony of brown pelicans, which formerly nested on Pelican Island, near Sebastian, Fla. The Brevard Bird Reservation, like others previously established by Executive order in Florida and elsewhere in the United States for the benefit of the birds, will be administered by the Department of Agriculture through the Biological Survey.

BUDGET HEARINGS CONCLUDED

Hearings by the Bureau of the Budget on the budget of the department for the next fiscal year began October 1 and have now been concluded. The Secretary and Assistant Secretary, the directors, the budget officer, and the heads of the various bureaus and divisions appeared before the budget officials and discussed the work of the various branches from the standpoint of expenditures for the current year and estimated expenditures for the next fiscal year. Detailed information on the amounts to be included in the budget will not be available until the budget is transmitted to Congress in December.

MORE PRAISE FOR DEPARTMENT EXHIBITS

Words of praise from the outside are again given the department for an exhibit, this time in the field of chemistry. Secretary Jardine has received the following letter from the Secretary of the American Chemical Society:

"MY DEAR MR. SECRETARY: On behalf of the American Chemical Society, I write to ex-

press our sincere appreciation for the aid given by the Nitrogen Fixation Laboratory in the exhibits showing the fixation of nitrogen and the oxidation of ammonia by working models in the booth of the American Chemical Society at the recent exposition of chemical industries in New York City. The exhibit excited great interest and favorable comment. It was explained to several hundred people daily by Herbert J. Krase, E. D. Crittenden, E. W. Guernsey, and W. E. Kuentzel, chemists of the Nitrogen Fixation Laboratory. Practically continuously from 1 o'clock in the afternoon until 10 o'clock at night these young scientists were surrounded by interested spectators. The exhibit was so successful and created so great an interest that I feel this letter from the society is due you and the Nitrogen Fixation Laboratory.

"Please accept the appreciation of all of the chemists who visited the exposition for this splendidly designed and excellently executed educational exhibit.

"Very truly yours,

"CHARLES L. PARSONS,
"Secretary."

ANNUAL "MUM" SHOW OPENS THIS WEEK

The 1925 chrysanthemum show of the department will open the latter part of this week at the department greenhouses at Fourteenth and B Streets. A private showing of the flowers will be held prior to the opening to the public, at which Mrs. Jardine, wife of the Secretary, will name the new seedlings developed during the year, according to the usual custom.

There will be about 1,200 blooms of Japanese chrysanthemums, representing 200 varieties. This number includes a few new standard varieties developed by commercial florists during the year and some new seedlings developed by the department. From 700 to 800 plants of pompons, comprising some 400 varieties, will be shown. These also include new seedlings developed by the department and a few new standard varieties.

WALTER DAVID HUNTER

Dr. Walter David Hunter, chief of the section of Southern field-crop insects of the Bureau of Entomology, died suddenly at El Paso, Tex., October 13. Doctor Hunter was born at Lincoln, Nebr., December 14, 1875. He was graduated from the University of Nebraska with the degree of A. B. in 1895, and was given the degree of A. M. by the same university in 1897. In 1916 Tulane University of Louisiana gave him the degree of LL. D. He was assistant entomologist at the University of Nebraska from 1895 to 1900, and in 1901 was assistant entomologist at the Iowa Agricultural Experiment Station. In 1902 he came to the Department of Agriculture and was made assistant entomologist in charge of boll-weevil investigations, and in 1905 was placed in charge of all Southern field-crop insect investigations. In 1908 he was made a member of the Federal Horticultural Board. Since the

advent of the pink bollworm in Texas he has been stationed at Houston, Tex., in active charge of the eradication work directed against this insect. Doctor Hunter was a fellow of the A. A. A. S., a member of the American Ornithologists' Union, the Entomological Society of Washington, and the American Association of Economic Entomologists. He was president of the last-named organization in 1913. He was the author of numerous papers and reports, all of a very high character.

Doctor Hunter was one of the strongest men of the department. He gained a grasp not only of the boll-weevil situation, but of the whole cotton-growing industry of an almost unequaled character. He commanded the respect and confidence of the best men in the South. He was one of the advisory board of the Bureau of Entomology, and the work which he and his assistants have done on the cotton-insect problem, particularly on the cotton boll weevil and the pink bollworm, has been of the very highest rank both from the scientific and the practical points of view.

Although Doctor Hunter's main work was devoted to the solution of cotton-insect problems, he became greatly interested a dozen years ago in the carriage of disease by insects. His admirable presidential address before the American Association of Economic Entomologists was entitled "American Interest in Medical Entomology," and at about the same time he was charged with the direction of the Bureau of Entomology project entitled "Insects Affecting the Health of Man and Animals," on which F. C. Bishopp, Capt. D. L. Van Dine, and Dr. W. V. King have done such remarkable work under his supervision.

Probably Doctor Hunter will always be best remembered as the man who had virtual charge of the cotton-boll weevil investigations of the department for more than 20 critical years; but surely his work in the eradication of the pink bollworm in Louisiana and Texas, both as an entomologist and as a member of the Federal Horticultural Board resident in Texas, with the immense practical difficulties involved, necessitating clear judgment, infinite tact, and ability to influence men of affairs, will always be remembered by those who understood the seriousness of the situation and who are familiar with its countless difficulties.

He was a sound entomologist. He was a broad, far-sighted man of affairs. He was an administrator who commanded the respect and affection of those associated with him. His death is a very great loss to the Department of Agriculture and to the country as a whole.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Alabama.—Otto Brown has been appointed extension specialist in forestry. J. L. Lawson, county agent in Marengo County, has been transferred to Hale County and will be succeeded by E. E. Hale, who served as assistant county agent during the summer in Pickens and Randolph Counties. H. C. Appleton, formerly with the Georgia Extension Service, has been appointed county agent in Greene County. J. W. Helms, county agent in Cullman County, has resigned. Grace James, who resigned two years ago from the position of home demonstration agent in Dale County, has been appointed home demonstration agent in Coffee County.

Arkansas.—Ruth Mayo has been appointed home demonstration agent in Arkansas County to succeed Mattie Ruth Melton, resigned, and in Lawrence County Lillian Deden has been succeeded by Myrtle Leitch as home demonstration agent.

Kansas.—D. Z. McCormick, county agent in Geary County, and Paul Gwin, county agent in Morris County, have exchanged positions. S. D. Capper, county agent in Lincoln County, has been transferred to Riley County and has been succeeded by W. J. Daly. Duke Brown has been appointed county agent in Hodgeman County to succeed J. L. Farland, resigned. Mrs. Julia Kiene, home demonstration agent in Shawnee County, resigned, has been succeeded by Mabel McComb; Nina Hurlburt, home demonstration agent in Franklin County, has been transferred to Wyandotte County; and Esther M. Huyck has been appointed home demonstration agent in Rawlins County.

Texas.—Chas. H. Alvord has been elected director of the extension service to succeed T. O. Walton, who became president of the Agricultural and Mechanical College of Texas September 1, after 16 years' service in extension work in the State.

Minnesota.—Parker Anderson has been appointed extension specialist in forestry, a new service for this State, in which the agricultural extension division, the State department of forestry, the division of forestry in the agricultural college, and the United States Department of Agriculture are cooperating. M. Lois Reid, formerly urban home agent in St. Paul, has been appointed to succeed Nora Hott, State clothing specialist, resigned. R. J. Bibelhausen, county agent of Lake of the Woods County, will be transferred November 1 to Kochich-

ing County, to take the place of M. M. Abbott, resigned.

North Carolina.—G. O. Randall, horticultural extension specialist, and E. R. Raney, agricultural engineering specialist, have resigned, the former to engage in teaching and research work, and the latter to go to Texas Agricultural College.

Rhode Island.—Sara E. Coyne has been appointed State home demonstration leader, and Abbie M. Russell has taken the place of Mrs. Vivian P. MacFawn as home demonstration agent for the Providence County Farm Bureau.

FORTHCOMING EVENTS

A course in extension problems in agriculture and home economics, designed to train students in extension methods, is being given this year to senior students in the College of Agriculture, University of Arkansas. The fall term will be devoted to lectures and class work, and the winter and spring terms will consist of laboratory work in Washington County under the direction of the county agent and home demonstration agent. This course, which is given under the direction of dean and director Dan T. Gray, is required of all senior students who wish to enter agricultural extension work.

A small vacant house near the campus of Louisiana State University was rented by the extension service for the duration of the recent club short course at the college, to be used by club girls enrolling for home decoration work as a demonstration in applying the theories they were learning. The owner repaired the six rooms of the bungalow for the purpose. The girls scrubbed and stained the floors, refinished pieces of furniture which had been donated for the purpose, made and placed rugs, draperies, and small accessories. Two of the girls made a lamp for the living room. As the amount of money which could be used was small, the girls also gained valuable experience in the wise expenditure of funds. When the work was completed a reception was held at the house for visitors and club members attending the short course. Members of a college sorority found the house so attractive that they rented it for use this year as a chapter house, making arrangements to retain the club girls' furnishings.

INDIANAPOLIS UNITY CLUB

The regular monthly luncheon meeting of the Indianapolis Unity Club of the department was held at the Chamber of Commerce October 12. President H. A. Rhoades presided, and John E. Spiegel, general agent of the Pacific Mutual Life Insurance Co. was the guest of the club.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How does the number of counties now employing extension agents compare with the number having extension agents 10 years ago?

Answer. There are now 2,083 counties employing agricultural extension agents and 930 counties which have home economics extension workers, while 10 years ago, at the end of the first year's operation of the Smith-Lever Act, 1,136 counties had agricultural extension agents and 350 counties employed home economics extension workers. A number of counties have a staff of two or more extension agents, such as county agricultural extension agent, home demonstration agent, boys' and girls' club agent; 88 counties have assistant county agricultural extension agents; 23 counties have assistant home demonstration agents; and 13 counties employ assistant club agents; while in the Southern States there are 164 counties employing negro agricultural agents for extension work with negro farmers and 107 counties which have negro home-economics agents for work pertaining to the negro farm home. There are some agents who carry on work in more than one county.

Question. Why do explosives used in blasting stumps appear to be more powerful when the ground is wet than when it is dry?

Answer. When the ground is wet the air spaces are filled with water and, as the water is not compressible, much greater force is exerted against the stump.

Question. What causes milk to sour and curdle, and why does some milk curdle without getting sour?

Answer. Milk sours when the lactic acid bacteria convert a sufficient amount of the milk sugar into acid to precipitate the casein. Certain types of bacteria produce an enzyme similar to that extracted from calves' stomachs to curdle milk for cheese making. Under some conditions these bacteria curdle the milk before enough acid has been produced to give it a sour taste.

Taxes on agricultural corporations and allied industries were only half so burdensome in 1923 as in 1922, but were still higher than on most other lines of business, economists of the department report after analyzing figures recently made public by the Bureau of Internal Revenue.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

INDIAN BOYS' AND GIRLS' CLUBS

The appearance of Indian club boys and girls at many of the county, State, and interstate fairs in the West this year has directed a great deal of attention toward this more recent extension activity.

Boys' and girls' club work, carried on by the Extension Service among the other children with such satisfactory results, inspired the Indian Service two years ago, under the direction of Commissioner Burke, to undertake similar work among the Indian boys and girls at the Government schools. Accordingly four clubs were formed that first year, with about 60 members. At the start the clubs were composed exclusively of Indian boys and girls. The results were so encouraging that the club work was soon merged with and made a part of the regular club projects under the supervision of county extension agents. The Indian boys and girls were then enrolled in the clubs on the same basis as the other children and had to comply with the same rules and regulations.

In 1924 there were Indian boys' and girls' clubs on 17 reservations, with a total of over 400 members from 9 to 14 years of age. The projects included sheep, pig, poultry, calf, corn, potato, garden, bread, canning, and sewing clubs. With few exceptions, each club member financed his or her own project.

This year (1925) organized work was conducted on 53 reservations, with an enrollment of over 1,800 boys and girls, not including the Five Civilized Tribes of Oklahoma, which have 2,500 members. Additional projects included rope, chili, onion, and goat clubs. The two latter projects are especially popular among the Zunis of New Mexico. Each member of the onion club has planted 1,000 onions. The success of the goat clubs will mean much to the Indians, as it will help them to start the raising of milk goats and the use of milk in the homes.

Different projects have proved popular in different localities. Among the Navajo Indians a girls' sheep club has been formed with the primary object of improving the class of sheep on the reservation. More than a hundred Indian boys and girls are enrolled in clubs in Arizona. On one reservation in that State the garden clubs have furnished to date 350 pounds of lettuce, 100 pounds of spinach, and 50 pounds of turnips to

the day school for use at the noonday meals. The sewing club on the same reservation, in competition with sewing clubs throughout the State, won the first prize for the best club exhibit and the sweepstakes at the State fair. Poultry clubs lead in enrollment of all livestock clubs. Pigs are second. The calf clubs, however, have shown the largest increase in membership.

The club leaders, under whose supervision the clubs are carried on, include superintendents of the Government schools, Indian Service farmers, public-school teachers, field matrons, neighboring white farmers, and Indian men and women who have met with success in the work. County and State fairs have proved especially successful in stimulating interest in the club work. A year ago an Indian girl won sufficient prizes on canned goods to pay her tuition in high school for the coming year, this being necessary as she was a resident of another county. This year one boy from the Ouray-Uintah Reservation won first prize for garden products at the State fair, competing with white boys. It is hoped that he will be given a free trip to the National Club Congress at Chicago in December as a reward. Efforts are being made to send four or five demonstration teams from different parts of the United States to the congress.

An especially novel demonstration was given this year at the Nebraska State Fair by two Indian boys from the Winnebago Reservation. These boys are members of a corn club and were selected to give a little demonstration on Indian corn at the State fair. Dressed in native costumes and adorned with feathers, beads, and strings of wampum these boys told in their own way the legend of the discovery of corn. They showed how it used to be cultivated by means of an Indian hoe made of the shoulder bone of an elk. In demonstrating the harvesting of corn the boys showed how the Indians braid the husks to dry the corn. An original mortar, hollowed out of a large piece of hardwood, and a pestle about 2 feet long were used in the grinding process.

The boys then told how the modern corn and the modern methods of cultivation were brought about and what the club itself is now doing. The demonstration was so successful that it was arranged that the boys repeat it at the interstate fair at Sioux City and at the National Club Congress at Chicago.

Boys' and girls' club work now seems to have established itself as an important part of the industrial program of the Indian Service. Among other things, the goal for 1926 includes a drive for increased enrollment, an effort to reach more out-of-school boys and girls between the ages of 15 and 21, a higher

percentage of completions, and to have their summer work include attendance at the State college club short courses.

CAMP VAIL HOLDS ANNUAL SCHOOL

Camp Vail, the boys' and girls' club camp held annually in connection with the Eastern States Exposition at Springfield, Mass., welcomed delegations from two additional States, Virginia and Ohio, and from New Brunswick, Canada, this year. About 200 champion club members were in the camp during the exposition, September 21-26, representing Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia, and New Brunswick, Canada. New features of their activities were both demonstrations covering major lines of club work. Club products were sold at some of the booths, the money going to defray the expense of members attending the camp. The exhibits were the most extensive that have been shown, each State sending material for from one to three booths.

Customary club camp routine was followed with tours to the different exhibits of the Eastern States Exposition, team demonstration work, booth demonstrations, evening meetings, and general assembly at which well-known visitors spoke on inspirational subjects, as features. The camp was under the management of G. L. Farley, State club leader, Massachusetts extension service.

An international 4-H training school was held at the camp the week previous to the exposition and each day of its duration. Two club members were sent by each of the 14 States participating in Camp Vail, in advance of the rest of its delegation, to share in the benefits of this school. Intensive training in club practices was given, which the young people in attendance are to pass on to their own clubs later. The school was under the direction of A. J. Brundage, State club leader of Connecticut extension service; A. L. Baker, Pennsylvania's State club leader; Dorothy Emerson, Maryland State girls' club agent; and Gertrude L. Warren, field agent in club work, Office of Cooperative Extension Work of the department.

A completed report to the Bureau of Entomology on losses occasioned by the Hessian fly indicates that the wheat crop was reduced by at least 40,000,000 bushels as a direct result of infestation by this insect. The situation still appears very serious in Kansas and the fall brood was recorded as having emerged about the middle of August.

BRIEF REVIEWS OF NEW BULLETINS

Food of American Phalaropes, Avocets, and Stilts. By Alexander Wetmore, assistant secretary Smithsonian Institution, formerly assistant biologist, division of food habits research, Bureau of Biological Survey. Pp. 20, pls. 3. October, 1925. (Departmental Bulletin 1359.)

A detailed study is presented of the food and feeding habits of five species of shore birds: The red, northern, and Wilson phalaropes, the avocet, and the black-necked stilt. Based upon the microscopic examination of 444 stomachs, representative of all seasons of the year and of the range of the various species, definite information regarding the economic status of these birds is given. No injurious traits are recorded against any of the phalaropes. The stilt is recommended for protection because of its evident taste for billbugs and other weevils, as well as for cutworms and giant water bugs, and the avocet shares with the stilt a taste for weevils, including injurious forms. With the well-merited protection now accorded them, these birds may be expected to hold their own and even to reinhabit some areas from which they have been long absent.

Efficient Methods of Retailing Meat. By Roy C. Lindquist, research agent in marketing, Bureau of Agricultural Economics, research assistant, Bureau of Business Research, Northwestern University. Pp. 44, figs. 6. October, 1925. (Miscellaneous Circular 54.) Price, 10 cents.

This publication covers such considerations as how to choose a location; relation of the equipment, sanitation and lighting of a shop to the success of the business; personnel and management; methods of purchasing for the store; refrigeration and care of meat; merchandising policies; methods of meeting competition; and methods and necessity of keeping good records. The circular is based on one of a series of related studies conducted by the Bureau of Agricultural Economics bearing on the retailing of meats. The Bureau of Business Research of Northwestern University cooperated in this study.

List of Technical Workers in the United States Department of Agriculture, 1924-25. Pp. 91. March, 1925. (Miscellaneous Circular 45.) Price, 15 cents.

This circular takes the place of the publication entitled "List of Workers in Subjects Pertaining to Agriculture," published in 1922, but omits all discursive matter, such as the work of the various offices and bureaus, which appeared in the previous publication. It is a list only, as the title suggests. Copies of this circular may be obtained free upon request by all workers in the department as long as the supply lasts.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 12-17, 1925. Copies of these publications may be obtained from the stations issuing them.

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, Jr. (Massachusetts Sta. Met. Bul. 441, pp. 4. Sept., 1925.)

A study of the oyster-shell scale, *Lepidosaphes ulmi* (L.), and one of its parasites, *Aphelinus mytilisapidis* LeB.,—Part I, Biology and morphology of the two forms of the oyster-

shell scale. Part II, Biology of a parasite of the oyster-shell scale. G. H. Griswold. (New York Cornell Sta. Mem. 93, pp. 67, pls. 2, figs. 21. July, 1925.)

The bimonthly bulletin. (Ohio Sta. Bim. Bul., vol. 10, No. 8, pp. 129-160, figs. 5. Sept.-Oct., 1925.)

Studies of inheritance of earliness in certain Avena crosses. C. F. Noll. (Pennsylvania Sta. Bul. 194, pp. 43, fig. 1. Apr., 1925.)

Economy in harvesting sugar beets. G. Stewart. (Utah Sta. Circ. 57, pp. 3. Oct., 1925.)

A review of the agriculture of the Big Bend country. B. Hunter, G. Severance, and R. N. Miller. (Washington Col. Sta. Bul. 192, pp. 47, figs. 10. Sept., 1925.)

Articles by Department Workers in Current Publications

Birdseye, Miriam (Cooperative Extension). Home food production standards improve rural health. The Nation's Health, June 15, 1925.

Blair, Harry F. (Public Roads). Cost of irrigation water in California. Modern Irrigation, vol. 1, pp. 11-12, August, 1925.

Browne, E. L. (Public Roads). Transportation of milk by motor truck in the Chicago dairy district. Good Roads, vol. 68, pp. 211-215, September, 1925.

—Transportation of milk by motor truck into Chicago. Power Wagon, vol. 35, pp. 5-9, September, 1925.

Cook, O. F. (Plant Industry). Cotton improvement laws in California. Journal of Heredity, vol. 16, pp. 335-338, September, 1925.

Couch, James F. (Animal Industry). Lupine studies. IV. Isolation of d-Lupanine from *Lupinus Kingii* (S. Watson). Journal American Chemical Society, vol. 47, pp. 2584-88, October, 1925.

Elliott, Charlotte (Plant Industry). Oat blast. Phytopathology, vol. 15, pp. 564-567, September, 1925.

Frey, R. W. (Chemistry). A device for preparing light leather samples for analysis. Journal American Leather Chemists Assoc., vol. 20, No. 10, pp. 470-475, October, 1925.

— and L. R. Leinbach (Chemistry). The distribution of tannin in the American chestnut tree with particular reference to stumps and roots. Journal American Leather Chemists Assoc., vol. 20, No. 10, pp. 457-470, October, 1925.

Goldbeck, A. T. (Public Roads). Design of cement concrete pavements. Concrete, vol. 27, pp. 19-21, October, 1925.

—The design of concrete pavements (part 2). Good Roads, vol. 68, pp. 217-222, 232, September, 1925.

Grover, O. L. (Public Roads). Deterioration of concrete in sea and alkali water. Concrete, vol. 27, pp. 17-18, October, 1925.

Hedcock, G. G., G. F. Gravatt, and R. P. Marshall (Plant Industry). Polyporus schweinitzii Fr. on Douglas fir in the eastern United States. Phytopathology, vol. 15, pp. 568-569, September, 1925.

Holmes, Walter C. (Chemistry), and **Edward F. Snyder** (Plant Industry). Hydrogen-ion concentrations. Spectrophotometric determination of hydrogen-ion concentrations and of the apparent dissociation constants of indicators. IV 1-naphthol-2-sodium sulfonate indophenol. Journal American Chemical Society, vol. 47, p. 2232, August, 1925.

McKay, J. C. (Public Roads). Uncle Sam knows what's the matter with the motor-truck business. Motor Truck, vol. 16, pp. 7-8, 25, September, 1925.

Melbeck, E. F. (Plant Industry). An effect of drought in the forests of the Sierra Nevada. Phytopathology, vol. 15, pp. 549-553, September, 1925.

Mitchell, G. F. (Chemistry). Annual statistical report of supervising tea examiner. The Spice Mill, September, 1925.

Proudey, C. E. (Public Roads). Effect of grading on sand-strength ratios. Concrete, vol. 27, pp. 25-6, October, 1925.

Shantz, H. L. (Plant Industry). Agricultural pests in Africa. Adult Bible Class Monthly, vol. 18, pp. 302-304, October, 1925.

Skinner, J. J. (Plant Industry), and **W. F. Fate, N. C.** Agric. Expt. Station. The influence of potash on cotton bolls and foliage on a potash deficient soil. Journal American Soc. Agronomy, vol. 17, No. 9, September, 1925.

Steiner, Gotthold (Plant Industry). The problem of host selection and host specialization of certain plant-inesting nemas and its application in the study of nematode pests. Phytopathology, vol. 15, pp. 499-534, September, 1925.

Swingle, C. F. (Plant Industry). Burr-knot of apple trees. Its relation to crown-knot and to vegetative propagation. Journal of Heredity, vol. 16, pp. 313-320, September, 1925.

Turrentine, J. W. (Soils). Potash. Mineral Industry, vol. 33, p. 591, 1924.

Walker, M. N. (Plant Industry). Studies on the mosaic disease of Nicotiana glauca. Phytopathology, vol. 15, pp. 543-547, September, 1925.

Wharton, W. R. M. (Chemistry). Requirements of the Federal Food and Drugs Act. American Food Journal, vol. 20, No. 9, pp. 461-466, September, 1925.

Wherry, E. T. (Chemistry). A new acid soil onion from West Virginia. Journal Wash. Academy of Science, September 19, 1925.

Yohe, H. S. (Agric. Economics). Federal warehouse receipts and bank credit. Manager. Robert Morris Associates, Monthly Bulletin, vol. 8, No. 4, September, 1925.

KANSAS CITY U. S. D. A. CLUB

The Kansas City U. S. D. A. Club met for the first time after the summer adjournment at the Kansas City (Kans.) Chamber of Commerce Building September 18. Twenty-three members attended. Doctor Townsend, of Topeka, who was a visitor at this meeting, made a few appropriate remarks. Doctor Inler, of the broadcasting committee, made a report on the progress of the broadcasting program. After some discussion it was considered advisable to delay the broadcasting until after the October meeting of the club. A suggestion was also made and approved that all papers which are to be broadcast be read and discussed at the regular club meetings.

INVESTIGATE ALFALFA SEED CHALCIS

The State Legislature of Utah has appropriated \$3,000 for an investigation of the alfalfa-seed chalcis. This work will proceed under the direction of Dr. W. M. Hawley, of the State experiment station, in cooperation with the Bureau of Entomology through its Tempe (Ariz.) field station. For several years past V. L. Wildermuth, in charge of that station, has been conducting a comprehensive investigation of the chalcis fly in relation to the production of alfalfa seed.

The department recently received a request for the latest Yearbook from a schoolboy who believes in taking no chances. His letter reads:

"Please send me an agricultural Yearbook, because it will help in my studies. There will be no obligation on my part."

Perhaps he fears that his desire to study may suffer a setback, and in such case wants no Government pressure exerted.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

- Buell, Guy de. *L'évolution de l'agriculture dans le Vexin normand depuis un demi-siècle*. Evreux, Impr. de l'Eure, 1924.
- Colorado. State agricultural college. Extension service. *Colorado's agriculture*, by Roud McCann and Thos. H. Summers. Fort Collins, 1924.
- Conferencia agrodoeira. 1st. Rio de Janeiro, 1916. *Annaes*, v. 3. São Paulo, 1916.
- Dunlop, James. *Scotsmen farming in England*. Kilmarnock, Scot., "Standard" printing works, 1925.
- Gambia. Dept. of agriculture. *Annual report*. 1st; 1924. London, 1925.
- Virginia agricultural advisory council. A five year program for the development of Virginia's agriculture. Richmond, Dept. of agriculture, 1924.

HORTICULTURE

- Bunyard, E. A. *A handbook of hardy fruits more commonly grown in Great Britain*. Stone and bush fruits, nuts, etc. London, J. Murray, 1925.
- Dendrologische gesellschaft für Österreich-Ungarn. *Die gartenanlagen Österreich-Ungarns in wort und bild*. Wien, F. Tempisky, 1905. 14.
- Heede, Adolphe van den. *Culture des dahlia cactus et autres, à la grande fleur*. Lille, Lefebvre-Ducrocq, 1904.

HOUSEHOLD DECORATION

- Parsons, F. A. *Interior decoration; its principles and practice*. Garden City, N. Y., Doubleday, Page, 1924.

TEXTILES

- Marshall Field & company, Chicago. *Textiles, a sample book of standard textiles*. Chicago, 1925.

FOOD AND NUTRITION

- Jandin, Robert. *Contribution à l'étude chimique et bactériologique des laits concentrés et de leurs altérations*. Alger, Gaudet et Proffier, 1922.
- Lorenzini, Jean. *Thésaur des vitamines et ses applications*. Paris, Masson, 1925.
- Maurizio, Adam. *Die nahrungsmittel aus getreide*. 2. aufl. v. 1. Berlin, P. Parey, 1924.

METEOROLOGY

- Tropical plant research foundation, Washington, D. C. *Bulletin no. 1. Rainfall and temperature of Cuba*, by Oliver L. Fassig. Washington, 1925.

GEOGRAPHY

- Brunhes, Jean. *Human geography*. Chicago, Rand McNally, 1920.

EXPOSITIONS

- Sesquicentennial exhibition association. *Official classification of exhibit departments of the Sesquicentennial international exposition to be held at Philadelphia in the year 1926*. Philadelphia, 1925.

CHEMISTRY

- Baly, E. C. C. *A course of three lectures on photochemistry*. Houston, Tex., 1925.
- (Rice institute. Pamphlet, v. 12, no. 1.)
- Stoll, Max. *Zur kenntnis der sesquiterpene und des α -camphorens*. Weida i Thür, Thomas & Hubert 1924. Inaug.-diss.—Zürich.
- Treblner, Henning. *Ueber die synthese des α -pinens und die konstitution einiger pinenderivate*. Zürich, 1923. Inaug.-diss.

ZOOLOGY

- Brooks, A. C. *A distributional list of the birds of British Columbia*. Berkeley, Cal., 1925. (Cooper ornithological club. Pacific coast avifauna. no. 17.)
- Jacquet, Edmond. *Guide de cultivateur. Les insectes nuisibles aux céréales, aux plantes sarclées et fourragères. Limoges, Société des publications rurales, 1925.*

BOTANY

- Hustedt, Friedrich. *Die bacillariaceen-vegetation des Sarekgebirges*. Stockholm, G. E. Fritzes bokforlagsaktiebolag, 1924. (Naturwissenschaftliche untersuchungen des Sarekgebirges. . . bd. 3, Botnaik, lfg. 6.)
- Lendner, Alfred. *Vocabulaire des termes techniques les plus couramment-usités dans la détermination des plantes supérieures*. Genève, Georg & co., 1902.
- Löhnis, M. P. *Onderzoek naar het verband tusschen de weersgesteldheid en de aardappelziekte (Phytophthora infestans)*. Scheveningen, Wetenschappelijke commissie voor advies en onderzoek in het belang van de volkswelvaart en weerbaarheid, 1924.
- Vermoesen, Camille. *Manuel des essences forestières du Congo Belge*. Bruxelles, Ministère des colonies, Direction de l'agriculture, 1923.

ECONOMICS AND STATISTICS

- Boyle, J. E. *Marketing of agricultural products*. New York, McGraw-Hill, 1925.
- Congrès national de la mutualité et de la coopération agricole. 9th. Reims, 1921. *Rapports et compte rendu*. Reims, Impr. réunies, 1921.
- East Africa commission. *Report*. London, Gt. Britain. H. M. Stationery off., 1925.
- Irish free state. Ministry of industry and commerce. *Committee on economic statistics*. Report. Dublin, 1925.
- Kulp, D. H. *Country life in South China*. The sociology of familism. v. 1. New York, Bureau of publications, Teachers college, Columbia university, 1925.
- Neurath, Otto. *Österreichs kleingärtner- und sieder-organisation*. Wien, Wiener volksbuchhandlung, 1923.
- Tobey, J. A. *The Children's bureau, its history, activities and organization*. Baltimore, Johns Hopkins press, 1925. (Institute for government research. Service monographs no. 21.)

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OLD BOOKS

- Pulteney, Richard. *A general view of the writings of Linnaeus*. 2d ed. London, Printed for J. Mawman, 1805.
- Redi, Francesco. *Esperienze intorno alla generazione degli insetti*. Firenze, All' insegna della Stella, 1668.
- Tornabene, Francesco. *Flora fossile dell'Etna*. Catania, Tip. dell'Accademia gioenia, 1829.
- Tornabene, Francesco. *Hortus botanicus regiae universitatis studiorum Cataniae*. Catania, ex typis F. Galati, 1887.
- Vallisneri, Antonio. *Dialoghi sopra la curiosa origine di molti insetti*. Venezia, G. Albrizzi, 1700.

PERIODICALS CURRENTLY RECEIVED

- Oil and gas journal (weekly) v. 24, no. 19. Oct. 1, 1925. Tulsa, Okla.
- Porto Rico health review (monthly). v. 1, no. 1. July, 1925. San Juan, P. R.

LOST BOOKS

- The following books belonging to the Library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the Main Library:

- African education commission. *Education in East Africa*. 1925.
- Archief voor de suikerindustrie in Nederlandsch-Indie. Jaarg. 29, deel 1, Jan.-June, 1921.
- London chemical society. *Journal*. 1909.

MAY OVERPLANT WHEAT SAYS THE SECRETARY

(Continued from page 1)

produced to supply normal mill, feed, and seed requirements in the United States. More durum wheat has been produced than is needed in the country, and there is some wheat on the Pacific coast for export. The shortage in supplies of several classes of wheat, however, may place the United States on an import basis for the greater part of the crop year. Apparently it is this situation which has prompted farmers to plan a large increase in wheat acreage. Even with an acreage not larger than that of last year a good average yield would place the United States on an export basis for most, if not all, classes of wheat in the crop year 1926-27.

Competing Countries Have Upward Trend

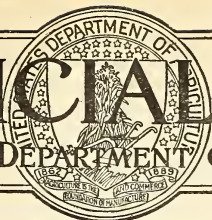
Moreover, the trend of production in competing countries is upward. The wheat area of Canada has been increased over the pre-war average of 10,000,000 acres to 22,000,000 acres, and Canada still has large areas suitable for wheat growing. Australia has increased her wheat area over the pre-war average of 7,600,000 acres to 10,800,000 acres. Argentina has a record acreage sown to wheat this fall. These three countries together have now about 53 per cent more wheat acreage than they had before the war.

In the circumstances, it is evident that our wheat situation has not yet reached a point where farmers should think no further readjustments are necessary. Our wheat area was reduced from 75,694,000 acres in 1919 to 54,994,000 acres last year. This figure was very close to the pre-war level. However, the trend is now toward expansion again. It would be a mistake, say the department's economists, for our wheat farmers to suppose that their wheat acreage may again be expanded with the certainty of good prices. Important competing countries can not be expected to have partial crop failures or low yields every year.

The cooperative work being done on predatory-animal eradication by the various wool growers' associations, the State board of livestock inspection commissioners, and the Biological Survey was featured in an exhibit as part of the main display of the Federal Department of Agriculture at the Colorado State Fair held at Pueblo during the week of September 1.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., NOVEMBER 4, 1925

No. 44

OFFICIAL CHEMISTS MEET AT WASHINGTON

Develop Methods of Analysis to Aid Agriculture and Related Industries

The forty-first annual convention of the Association of Official Agricultural Chemists was held at the Raleigh Hotel in Washington, D. C., on October 26 to 28. Addresses were made by Assistant Secretary R. W. Dunlap, by Dr. C. A. Browne, chief of the Bureau of Chemistry and president of the association, and by Dr. Harvey W. Wiley, a former chief of the bureau. The association adopted reports of referees recommending new methods, or improvements in existing methods, of analysis which had been developed during the past year, and completed its organization and plans for the ensuing year's work.

Assistant Secretary Dunlap extended the greetings of the department and pointed out that perhaps the greatest possibility for service to agriculture on the part of the chemist in the immediate future lies in the development of more diversified utilization of crops.

Diversity of Utilization Needed

"We need," Assistant Secretary Dunlap said, "diversity of utilization as well as diversity of production. From an economic standpoint flexibility of methods for utilizing a plant crop is highly desirable. For instance, because of the relative price of sugar and sirup during the last season, a larger return could be obtained by the growers of cane in Louisiana by converting a larger proportion of their crop into sirup. In some other seasons the reverse has been true, it being more profitable to make cane sugar than to make cane sirup. Chemical research is assisting the manufacturers in Louisiana in developing methods for the production on a larger scale of a higher grade of cane sirup

that will meet the demands of a wider market. The cane growers of Louisiana will hereafter have two markets instead of one."

Mr. Dunlap pointed out that similar possibilities exist in the case of many other important crops, and congratulated the association on the way in which it has directly applied the basic science of chemistry to the solution of pressing agricultural problems.

Analysis is a Means to an End

Dr. C. A. Browne spoke on "The Purposes and Aims of Agricultural Chemical Analysis." He raised the question as to whether or not the work of the association has been too exclusively devoted to the development of methods of analysis for use in regulatory control. He pointed out that the founders of the association had in mind the ultimate development of methods for research as well as regulatory work. He advocated a middle course between the demands of these two essential lines of work, and asserted that they are not necessarily antagonistic but may be mutually helpful.

Doctor Browne suggested that improvement might be made in strengthening our methods for agricultural chemical research by giving more attention to methods for determining the hydrogen-ion concentration in soils, plant, and animal fluids, extracts, and other miscellaneous solutions, and that it was also desirable to improve our methods for determining minute quantities of certain elementary constituents of food such as fluorine, iodine, iron, and other less common elements which have specific physiological uses.

Doctor Browne declared that "Chemical analysis in the final summation is only a means to an end. The processes described in our book of methods are simply working directions which will be employed with the highest intelligence, skill, and effectiveness only in so far as we keep in mind the ultimate purpose of our association, which, whether it be for research or control, is service in the broadest and fullest meaning of the word."

(Continued on page 7)

LAND-GRANT COLLEGES TO HOLD CONVENTION

Program Deals with Various Problems of Agriculture, Home Economics, and Engineering

The thirty-ninth annual convention of the Association of Land-Grant Colleges will be held at the Congress Hotel, Chicago, November 17-19, 1925. There will be, as usual, general sessions and sectional meetings.

The general theme around which the deliberations and discussions of the convention will largely center is the relation of the land-grant institutions to the fundamentals of a forward-looking national policy for the development of agriculture, the industries, and home making. A very full program covering various features of the resident teaching, experiment station, extension, engineering, and home economics work of the land-grant institutions has been arranged.

It is expected that the Secretary of Agriculture will address the convention Wednesday evening, November 18. Other representatives of the department will take part in the proceedings.

Officers of the Association

The officers of the association for this meeting are:

President, A. F. Woods, president of the University of Maryland, whose presidential address Tuesday evening, November 17, will deal with the land-grant institutions in their relation to the development of agriculture.

Secretary-treasurer, J. L. Hills, of Vermont.

Section of agriculture: F. W. Peck, of Minnesota, chairman; E. C. Johnson, of Washington, secretary; subsection of resident teaching, E. M. Freeman, of Minnesota, chairman; C. H. Winkler, of Texas, secretary; subsection of experiment station work, H. W. Mumford,

of Illinois, chairman; Dan T. Gray, of Arkansas, secretary; subsection of extension work, H. J. C. Umberger, of Kansas, chairman; I. O. Schaub, of North Carolina, secretary.

Section of Engineering: E. A. Hitchcock, of Ohio, chairman; R. A. Seaton, of Kansas, secretary.

Section of Home Economics: Edith P. Chace, of Pennsylvania, chairman; Margaret M. Justin, of Kansas, secretary.

The program as far as it has been completed at the present time is as follows:

General Sessions

Tuesday, November 17, 8 p. m.—Report of executive committee; presidential address, the land-grant institutions in their relation to the development of agriculture, A. F. Woods, of Maryland; the land-grant institutions in their relation to the development of the industries, H. B. Shaw, of North Carolina; the land-grant institutions in their relation to the development of home making, Anna L. Richardson, of Iowa; report of the treasurer; miscellaneous business.

Wednesday, November 18, 8 p. m.—Address of the Secretary of Agriculture; the American Farm Bureau Federation, O. E. Bradfute, of Ohio; the history of the Purnell bill, E. W. Allen, of Washington, D. C., and J. L. Hills, of Vermont; miscellaneous business.

Thursday, November 19, 9 a. m.—Report of committee on instruction in agriculture, home economics, and mechanic arts, A. C. True, of Washington, D. C.; report of bibliographer, A. C. True; the land-grant colleges for the colored race, J. M. Gandy, of Virginia; looking backward and looking forward, W. O. Thompson, of Ohio; report of executive committee; announcement of standing committees and miscellaneous business.

Wednesday, November 18, 10 a. m.—Informal conference of presidents.

Executive Body

Wednesday, November 18, 3 p. m.—Reports of standing committees on college organization and policy, C. A. Lory, of Colorado, and military organization and policy, Samuel Avery, of Nebraska; reports of special committees on State fiscal policies, F. L. McVey, of Kentucky; and relations between international Institute of Agriculture, International Labor Organization (Geneva), and Association of Land-Grant Colleges, R. A. Pearson, of Iowa; relation of private interests to boys' and girls' club work, T. O. Walton, of Texas; discussions of academic freedom and tenure, survey of the work of the land-grant institutions in agriculture and home economics, the Purnell Act, respective fields of work of the colleges of agriculture

and the State departments of agriculture, and should there be constituted in the Association of Land-Grant Colleges a section on liberal arts; miscellaneous business.

Thursday, November 19, 11 a. m.—Consideration of reports, recommendations, and resolutions from the general session; final report of executive committee; consideration of recommendations from the executive committee; miscellaneous business; election of officers.

Section of Agriculture

Resident teaching division, Tuesday, November 17, 9 a. m.—Program not yet arranged.

Experiment station division, Tuesday, November 17, 9 a. m.—The influence of the Purnell Act on the development of agricultural research, E. W. Allen, of Washington, D. C.; the principles which should characterize sound investigation in the field of agricultural economics and rural sociology, J. D. Black, of Minnesota; organization for and relationships in cooperative research, T. P. Cooper, of Kentucky; report of committee on experiment station organization and policy, R. W. Thatcher, of New York; report of joint committee on projects and correlation of research, F. B. Mumford, of Missouri; report of joint committee on publication of research, J. G. Lipman, of New Jersey; election of division officers.

Extension division, Tuesday, November 17, 9 a. m.—The importance of home work in our extension program, Lita Bane, of Washington, D. C., and T. R. Reid, of Arkansas; probable developments in county extension organization, B. H. Crocheron, of California, J. R. Hutcheson, of Virginia, C. E. Ladd, of New York, and Amy Kelly, of Kansas; future finances and policies in extension work, A. J. Meyer, of Missouri; report of committee on extension organization and policy, T. O. Walton, of Texas; election of division officers.

Resident teaching (joint session of the three agricultural divisions dealing with matters pertaining to resident teaching), Tuesday, November 17, 2 p. m.—The agricultural college and the various demands for leadership in the modern industry of agriculture, J. A. James, of Wisconsin; can correspondence courses in agriculture contribute to the development of modern agriculture and home making? H. J. C. Umberger, of Kansas; modern tendencies in methods of college teaching, G. A. Works, of New York.

Research (joint session of the three agricultural divisions dealing with matters pertaining to research), Wednesday, November 18, 9 a. m.—The function of research in developing a national agri-

cultural policy, F. B. Mumford, of Missouri; results of research in land economics that point the way to a national land policy, L. C. Gray, of Washington, D. C.; contributions of the land-grant institutions to national agricultural progress, B. Youngblood, of Texas.

Extension (joint session of the three agricultural divisions dealing with matters pertaining to extension), Wednesday, November 18, 2 p. m.—A demonstration in the use of price data and statistics applicable to adoption by farmers in adjusting their production to market demands, G. F. Warren, of New York; the responsibility in expanding the boys and girls' club movement in its field of work, C. B. Smith, of Washington, D. C.; some aspects of a study of leadership in extension work, H. C. Ramsower, of Ohio; election of officers of the section of agriculture.

Section of Engineering

Tuesday, November 17, 9 a. m.—The land-grant college engineering experiment stations, E. A. Hitchcock, of Ohio; value to the industries of engineering research at Illinois, M. S. Ketchum, of Illinois; O. J. Ferguson, of Nebraska; E. J. Fernier, of Texas; C. R. Jones, of West Virginia; and O. M. Leland, of Minnesota. Report of secretary; appointment of committees on nominations and resolutions.

Tuesday, November 17, 2 p. m.—Value to industries of engineering research at Iowa State College, Anson Marston, of Iowa; L. D. Crain, of Colorado; W. N. Gladson, of Arkansas; E. J. McCaustland, of Missouri; and S. B. Earle, of South Carolina. Extension work in engineering in cooperation with industry, F. E. Turneure, of Wisconsin, C. E. Ferris, of Tennessee; and J. W. Votey, of Vermont.

At 6 p. m.—Informal dinner.

Wednesday, November 18, 9 a. m.—Value to industries of engineering research at Pennsylvania State College, R. L. Sackett, of Pennsylvania; G. W. Bissell, of Michigan; H. S. Boardman, of Maine; H. V. Carpenter, of Washington; and R. A. Seaton, of Kansas; cooperative research as conducted at Purdue University and other land-grant institutions, A. A. Potter, of Indiana; F. P. Anderson, of Kentucky; D. S. Kimball, of New York; S. R. Pritchard, of Virginia; and H. B. Shaw, of North Carolina. Report of committee on engineering experiment stations, G. W. Bissell, of Michigan; reports of committees; election of section officers.

At 2 p. m.—Inspection trips to the new Crawford Avenue power plant and the new terminal station of Illinois Central Railway.

(Continued on page 3)

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

ARRANGE TO SUPPLY VESSEL REPORTS

As a result of correspondence between the Weather Bureau and the Imperial Marine Observatory at Kobe, Japan, arrangements have been made to supply the latter institution with the vessel reports received twice a day by radio at the San Francisco station of the Weather Bureau from the region of the Pacific east of the 180th meridian. The very creditable series of daily weather charts of the North Pacific Ocean published by the Kobe Observatory will in consequence be materially improved in value. These daily charts are issued in monthly collections a few months after the period to which they refer.

SMALLER APPLE CROP THIS YEAR

The per capita consumption of apples in the United States is now about half an apple a day, says the department. The total crop this year will reach 164,000,000 bushels compared with 179,000,000 bushels last year. The decrease in total production, however, is partially offset by the fact that the crop is of unusually fine quality, and less than the usual proportion will go to waste or be used for manufacturing purposes.

TEXAS FOOT-AND-MOUTH UNDER CONTROL

The latest reports from foot-and-mouth disease headquarters in Texas to the Bureau of Animal Industry are very encouraging. After waging a vigorous campaign the combined State and Federal forces are now in complete control of the situation.

Since October 3 infection has been found in only four herds, all of which were in the Webster district in Harris County. These herds, which contained 521 cattle, were disposed of promptly, the last one being discovered on October 14 and destroyed the following day. No infection has been found north of the Ships Channel for more than a month and the last known diseased herd in Galveston County was slaughtered on October 1.

The number of animals destroyed since the beginning of the outbreak and up to the close of October 16 is as follows: Cattle, 21,263; sheep, 1,452; swine, 619; goats, 272.

Practically all of the State embargoes placed against livestock and commodity shipments from the whole State of Texas at the time eradication work was being hampered by court injunctions have been lifted and such shipments are now moving freely from all but a comparatively small number of countries which are under State or Federal quarantine.

LAND-GRANT COLLEGES TO HOLD CONVENTION

(Continued from page 2)

Section of Home Economics

Tuesday, November 17, 9 a. m.—The relation of the home economics division to the institution as a whole—organization in the institution and relationship regarding activities, Martha Van Rensselaer, of New York; internal organization of the home economics division, Ava Milam, of Oregon; minimum requirements for the bachelor's degree in home economics and methods of accrediting for advanced standing in accordance with such minimum standards.

Tuesday, November 17, 2 p. m.—Report of committee on findings for session on general administrative problems; the organization of research in land-grant colleges, Robert Earl Buchanan, of Iowa; standards for research under the Purnell Act, E. W. Allen, of Washington, D. C.; relation of home economics research to experiment stations under the Purnell Act, R. W. Thatcher, of New York, and Margaret Justin, of Kansas; reports of national committees—rural-home management, Anna E. Richardson, of Iowa, and vitamins in relation to human nutrition, Louise Stanley, of Washington, D. C.

Wednesday, November 18, 9 a. m.—Report of committee on findings for session on research; achievements in 10 years—roll call of States; the extent to which extension people should develop and encourage production for sale, Florence E. Ward, of Washington, D. C.; reports on work under way.

Wednesday, November 18, 2 p. m.—Report of committee on findings for session on extension; the contribution home economics has to make to a State child-welfare program; agencies contributing to parent training—in institutions, such as practice house and nursery school, Flora Rose, of New York, through extension work, Kathryn G. Van Aken, of Illinois, the division of parent education, Bureau of Education, Ellen C. Lombard, of Washington, D. C.; training workers for the field, Edna N. White; research under way in child development—report of committee; election of section officers.

Department Represented at Home Economics Association

Three representatives of the department appeared on the program of the District of Columbia Home Economics Association meeting held on October 23 in the Bureau of Home Economics. They were Miss Miriam Birdseye of the Office of Cooperative Extension Work, Miss C. Rowena Schmidt of the Bureau of Home Economics, and J. H. McClain of the Bureau of Dairying. Miss Birdseye gave a demonstration on "Points to Work for in Children." She used a 7-year-old girl to point out such manifestations of good growth, good nutrition, and good posture, as the lay person can and should learn to recognize. The method illustrated is being used by several extension specialists in nutrition to interest parents in good child-feeding practices.

Miss Schmidt spoke on the research in foods and nutrition carried on by the bureau. She outlined briefly studies in home canning methods, in utilization of soft-wheat flours, in the percentage composition of food materials, and in their vitamin, mineral, and organic acid content, and many smaller pieces of work. Child feeding from the standpoint of food refusals is also being studied, and the cost of feeding children in institutions.

Mr. McClain's subject was the milk-for-health campaigns of the Bureau of Dairying. Doctor Goldberger of the Public Health Service was also present and sketched rapidly the nutrition research of that organization, speaking in particular of his own special research in respect to pellagra.

CLUB GIRLS UTILIZE NATIVE FRUITS

Juice of the wild black currant which grows in western Oklahoma makes a pleasing drink, according to Woodward County, Okla., club girls who last year sold 76 quarts of it put up in standard containers. Many wild currants have been transplanted to home gardens in western Oklahoma counties within the past five years, reports state, where they are a valuable source of fruit, as they prove very hardy, resist sudden changes of temperature, and produce on a minimum amount of moisture. The club girls, who are learning under the direction of the home demonstration agents to make standardized products utilizing native fruits for home use and for sale, are giving attention to wild currant juice, jelly, and jams, which have an attractive flavor and add a dependable product to their pantry shelves, since the currants have borne even in poor fruit-bearing seasons when other small fruits have failed.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary

PACKERS AND STOCKYARDS ADMINISTRATION

MEMORANDUM No. 544—October 27, 1925.—Dr. Frank W. Miller has been designated assistant chief of the packers and stockyards administration vice G. N. Dagger, who has been made head of a new division to be known as Studies of Packer and Stockyards Operations.

Memoranda of the Bureau of the Budget

CIRCULAR No. 168—October 15, 1925. Lieut. Col. Dennis P. Quinlan, United States Army, is hereby relieved from further duty as coordinator, Fourth Area, New Orleans, La., and upon completion of treatment at Walter Reed General Hospital, Army medical center, Washington, D. C., will report in person to the chief coordinator for duty in his office.

CIRCULAR No. 169—October 15, 1925. Col. T. J. Powers, United States Army, now on leave of absence at San Francisco, Calif., is relieved from duty in the office of the chief coordinator, Washington, D. C., and assigned to duty as coordinator, Ninth Area, with station at San Francisco, Calif.

By direction of the President.

H. M. LORD,
Director of the Bureau of the Budget.

REPORT ON MOTOR-TRUCK IMPACTS

Representatives of the Rubber Association of America, the Society of Automotive Engineers, and the Bureau of Public Roads met at the department on October 29 to discuss the results obtained from the research on motor-truck impact, which had been conducted cooperatively by the three bodies.

The main program of tests as originally laid down for this research has been completed and a progress report is being prepared for early publication from the data and conclusions which were reviewed at the meeting. Initial

publication of the report will probably be made in an early issue of Public Roads.

TRAINING NECESSARY IN AGRICULTURE

"In agriculture, as in other lines of work, it is the man with the trained mind who is most likely to succeed," declared Dr. C. B. Smith, chief of the Office of Cooperative Extension Work, who represented the department at a dinner given in New York City on October 20 by the National Farm School, an organization which teaches city boys to become scientific farmers.

"Agriculture is becoming a real science as well as art," said Doctor Smith. "The competition in it is keen. One contemplating making his living by

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farming should thoroughly prepare himself for the work. Education counts in farming as it does in industry and commerce.

"There probably never has been a more opportune time to take up work in an agricultural school or college with the purpose of graduating and going into farming than at the present moment. By the time students who enter now finish school, agriculture, which has been at the bottom of the cycle, will, according to all precedent, be on the up grade and will continue on the up grade over a substantial period of years. The man, then, who has prepared himself and knows how to farm will get into this movement at the psychological moment of rising prices and rising land values.

"The great recompense in agriculture, however, is not so much financial as it

is the possibility of living a satisfying, wholesome, creative life, with one's family around him. The country is a place where industry, frugality, and the homely virtues of thrift and neighborliness are taught as everyday matters. The wife and children are partners in the business; they work together and share in each other's joys and hopes. There is learned thoroughly the lesson that as you sow so shall you reap. The life of the intelligent farmer is almost the ideal life.

"The United States Department of Agriculture," concluded Doctor Smith, "rejoices in the development of agricultural schools, like the National Farm School, where both the philosophy and the actual practice of agriculture may be learned by our city boys. Such schools are a distinct asset to our Nation."

MARKETING OFFICIALS WILL MEET

The annual meeting of the National Association of Marketing Officials will be held at the Congress Hotel, Chicago, November 30 to December 2. The program this year will feature the recent trend of development among cooperatives, problems relating to marketing of livestock, a discussion of land values as related to agricultural prosperity, and the adjustment of agricultural production to market requirements. Other topics to be considered will be standardization of requirements for the accreditation, certification and registration of poultry, hatcheries and flocks; advertising as related to the marketing of agricultural products; transportation problems, etc. The speakers have not yet been announced.

CHILD-DEVELOPMENT CONFERENCE

Dr. Louise Stanley, chief of the Bureau of Home Economics, attended a conference called by the committee on child development of the National Research Council in New York City on October 23-25. The committee, of which Dr. Bird T. Baldwin is chairman, invited 25 research workers of the United States and Canada to meet with it and discuss problems in research on the development of the child. These workers represented the fields of anthropology, education, hygiene, nutrition, pediatrics, psychology, and psychiatry.

While in New York, Doctor Stanley gave a radio talk from station WEAF on "Planning the meals to meet the needs of the children in the family."

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Kentucky.—P. H. Gooding was appointed field agent in poultry husbandry, effective August 1. During April C. C. Shade was appointed county agent in Jessamine County; E. P. Tichenor, assistant county agent in McLean County; R. H. Lickert, county agent in Oldham County; and G. W. Gardner, county agent in Washington County, to succeed Robert Heath, who was transferred to Franklin County. E. H. Darnaby, who resigned June 10 as county agent in Trimble County, has been succeeded by W. B. Howell, and Stuart Brabant was appointed September 15 to the position of county agent in Mercer County, to succeed John R. Spencer, resigned. Harry Lane, county agent in Crittenden County, has been transferred to Todd County, and Phil Watlington, county agent in McLean County, to Bourbon County, to take the place of H. D. Triplett, resigned. Eleanor Enright has resigned as field agent in foods, effective September 1. Elizabeth Galloway has been appointed home demonstration agent in McCracken County, to succeed Martha I. Moore, resigned; and in Boyd County, Mary C. Gormley, resigned, has been succeeded by Ruby Dalzell. Beatrice Moller has been appointed home demonstration agent in Mphlenberg County, and Bruce Eloise Kirkman in Union County. Mary L. Daugherty, home demonstration agent in McLean County, and Mrs. Rheda W. Oury, home demonstration agent in Calloway County, have resigned.

Maryland.—B. E. Carmichael, livestock specialist, who has been transferred to the experiment station staff, has been succeeded by K. A. Clark, formerly assistant professor of animal husbandry in the University of Maryland.

Massachusetts.—John B. Abbott, extension specialist in agronomy; John A. Crawford, extension editor; and Laurence A. Bevan, county agent in Berkshire County, have resigned.

Minnesota.—Parker O. Anderson has been appointed forestry extension specialist, effective October 1, and T. G. Stitts has succeeded E. C. Johnson, half-time marketing specialist, resigned. Ramer Leighton began work September 1 in dairy extension, assisting in cow-testing association organization. A. J. Kittleson, district agent in boys' and girls' club work, has been transferred from the Northwest Experiment Station at Crookston to University Farm, St. Paul, and H. A. Pfughoeft has taken his place. Lois Reid, formerly urban

home demonstration agent in St. Paul, has succeeded Nora Hott, clothing specialist, resigned.

Vermont.—Helen Findlen has been appointed acting home demonstration agent and will be assigned a county in the near future.

FORTHCOMING EVENTS

Radio classes in poultry, dairying, swine raising, beekeeping, gardening, and flower growing are being arranged for this fall and winter by the extension division of the department of agriculture, University of Minnesota. The lectures will be broadcast by Station WCCO, Minneapolis. Enrollment blanks will be distributed by county agents, the agricultural extension division, and Station WCCO. Enrolled members will have the privilege of asking questions by mail, the answers to be made by radio. At the end of each course members of the class will receive a pamphlet containing questions and answers and a general summary of the points covered in the course.

BOSTON U. S. D. A. CLUB

The Boston U. S. D. A. Club held its first fall meeting at 12.30 p. m., October 13, at the European corn-borer quarantine station, No. 12 South Market Street, Boston, Mass.

Commander S. C. Rowan, United States Navy, coordinator, first area, was the principal guest, and there were also present 26 members and friends, representing 5 bureaus and 16 activities of the department. After the usual light luncheon was served brief outlines of the past season's results were given by A. F. Burgess, in charge of Gipsy and brown-tail moth work; Dr. G. H. Adams, chief, Boston station, food and drug inspection; L. H. Worthley, in charge of European corn-borer control; and R. I. Smith, Federal Horticultural Board. Commander S. C. Rowan, United States Navy, the newly appointed coordinator, who has recently been detached from submarine duty, briefly explained the functions and activities of the coordinator's office and also gave a most interesting and instructive account of the construction and operation of submarine boats and the important part played by under-seas craft in the World War.

The regular meetings of the Boston U. S. D. A. Club will be held from 12 to 1.30 p. m. on the first Tuesday of each month, in order to enable the members to attend the monthly meetings of the Federal Business Association, which takes place at 2 p. m. on the same day. This arrangement makes it convenient for employees at distant stations in the Greater Boston district to attend both meetings with a minimum loss of time.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Can an outboard motor be used, under the Federal law, in carrying hunters to and from ducking grounds?

Answer. An outboard or detachable motor may be used in going to and from ducking grounds or in retrieving dead ducks without violating the Federal law. It is unlawful, however, to shoot from a boat while an outboard motor is attached thereto. If a motor is actually detached and placed in the bottom of the boat, the department has ruled that the boat will not be considered a motor boat within the meaning of regulation 3 of the migratory bird treaty act regulations.

Question. Does the seed-importation act give the American farmer protection against the importation of seed not adapted to agricultural use in the United States on account of the climatic conditions under which it was grown?

Answer. No.

Question. What is the value of the yearly growth of an acre of southern yellow pine?

Answer. The value of standing timber, as is well known, varies widely with the size and clearness of the timber and its accessibility to market. A value of \$5 a thousand feet for southern yellow pine on the stump means that an acre well set with pines is making a gross return of from \$2 to \$3 per acre yearly.

Question. How many radio stations now broadcast market reports?

Answer. The Bureau of Agricultural Economics states that there are approximately 85 stations in this country which include market reports in their program for daily broadcasting.

PORTUSDA CLUB

Portusda, the Portland, Oreg., U. S. D. A. Club, held its first fall meeting on October 2, with 26 members present. F. L. Kent, president of the club, conducted the meeting. George H. Berlinger, a prominent lumberman of Portland and a member of the Oregon State Board of Forestry, gave an interesting talk on lumber standards and grades. Mr. Gerlinger was one of the Pacific coast representatives at the Washington, D. C., conference on wood utilization, of November, 1924, and told of the very practical working out on the ground of the principles laid down at that important meeting. L. A. Nelson, secretary of the West Coast Lumbermen's Association, and formerly of the Forest Service, talked on lumber grading as used in the logging operations of the Pacific coast.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

HIGHWAY GRADING STUDIES SUCCESSFUL

Analyses of road-construction operations by the Bureau of Public Roads during the past year and the methods of reducing costs developed from the analyses have recently been subjected to test on actual road-construction projects and are proving to be even more effective than the bureau had hoped.

The studies were initiated as a result of the belief of the bureau that more scientific management would often result in greater production. The first studies were made on highway grading with various kinds of earth-moving equipment, including slip and wheel scrapers, Fresnoes, elevating graders, steam shovels, and other earth-moving equipment. In one case it was found that the losses due to delay from minor breakdowns of a worn-out machine greatly exceeded the cost of a new machine, since when the machine stopped everything stopped.

The tests thus far made indicate that savings of from 25 to 35 per cent of the earth-moving cost may generally be made on average projects. Later the same methods were applied to concrete road construction with even greater savings.

In one case production under the contractor's management had averaged about 36 linear feet an hour. As a result of suggestions made by the bureau's engineers production rose steadily during the test period of about a month to an average of 62½ feet an hour. The effect of this improvement was to cut the labor cost of laying concrete to less than half.

Detailed reports on the highway grading studies have been published in the bureau's magazine, *Public Roads*.

WITH EXTENSION FORCES

KIWANIS CLUB HELPS BOYS' PIG CLUB

Good pigs were wanted by farm boys of Oklahoma County, Okla., with which to begin their club work. Kiwanis Club members of the county seat wanted to help in the agricultural progress of the county. So the county agent's office solved both problems last year by arranging a cooperative plan whereby the Kiwanis Club bought 15 registered bred gilts and 15 club boys were given an opportunity to earn ownership of the

animals by feeding and caring for them by approved methods until their litters were 8 months old and then returning to the Kiwanis Club two pigs chosen from each of the litters.

A very businesslike contract was drawn up and signed by each prospective owner and a Kiwanis Club representative. The boy agreed to provide sufficient pasture, feeds, and equipment to care properly for his pig, and the Kiwanis Club agreed to furnish the pig, a registered gilt or sow, vaccinated against cholera and bred to a registered boar of the same breed. One Kiwanis Club member was selected to act as sponsor for each club boy, to visit and encourage the boy in his effort.

The best practices in swine husbandry were discussed with County Agent C. R. Donart or J. R. Spencer, the assistant agent, in the boys' club meetings, and were carefully followed by the young stockmen. Frequent visits throughout the season between sponsor and boy kept up the interest and enthusiasm of both. Incidentally from this cooperation the boy added something to his knowledge of good business methods and the business man was kept in close touch with farming problems and conditions.

Then, when the litters were eight months old, two sow pigs weighing not less than 175 pounds were chosen from each, to be returned to the Kiwanis Club, together with a financial report from each boy on his enterprise. When this was done the boy received the registration papers for his sow and became sole owner of both sow and the remaining pigs. The pigs returned by the boys were either placed with other club boys under similar contract or were sold to defray breeding fees, registration, or other expense. Any sows which did not bear litters were rebred at the boys' expense.

Thirty Oklahoma County boys now have registered sows through this plan, and the Kiwanis Club has considered the enterprise so well worth while that more money was appropriated this year to extend the work.

The 15 sows farrowed 117 pigs, 93 of them were raised and 30 returned to the Kiwanis Club, according to the contract. When the boys closed their account books at the end of the season they found they had as return for their labor and feeds, which averaged \$15 a head, the 15 sows with which they had started, now weighing about 400 pounds, and 63 8-month-old pigs, averaging 200 pounds each.

Yoshiaki Miura, third secretary of the Japanese Embassy, and Pierre du Pasquier, of Havre, France, were recent visitors at the department.

Undertake Research in Psychology of Child Feeding

The children who "hate meat and will not eat" are one of the important problems demanding the help of the nutrition specialist. A constantly increasing body of knowledge based on accurate scientific experiments is proving the relation between food habits and the mental and physical development of children. "Tell me what he eats and I'll tell you what he is" has several grains of scientific truth in it when applied to children's diets.

Why there should be so many of these young "feeding problems," who are the despair of their mothers and oftentimes of the child specialist, is a question, however, that has been given little attention. Attention has been focused too often on the child himself, without realizing that attention was the very thing he was seeking to gain. How he got that way has not been given enough thought. Obviously, though, it is a psychological problem in most cases and must be approached from that angle.

The Bureau of Home Economics is making a study of the causes and remedies of food dislikes and refusals of children of the preschool age. Facts are being collected from the mothers of such children by means of a questionnaire circulated through the Merrill-Palmer Nursery School, of Detroit, and the American Association of University Women. This association was selected as a cooperator because it has organized among its members groups for the study of problems of the preschool child, and these mothers are therefore in an excellent position to further this research of the bureau.

From the summary of the experiences of a large number of mothers the bureau hopes to work out suggestions that will aid in preventing children from forming food antipathies and will help in overcoming them once they become established. Miss Rowena Schmidt, who specialized in this subject during a year of graduate study at the University of Missouri and the Merrill-Palmer School in Detroit, is in charge of this research in the bureau.

The hay, feed, and seed division of the Bureau of Agricultural Economics has turned over to the director of purchases and sales practically a ton of beans of 19 different kinds. These beans are on sale in the basement of the administration building and may be purchased at from 4 to 10 cents a pound, depending on the kind and quality.

BRIEF REVIEWS OF NEW BULLETINS

Home Utilization of Muscadine Grapes. By Charles Dearing, associate horticulturist, office of horticultural investigations, Bureau of Plant Industry. Pp. 27, figs. 6. September, 1925. (Farmers' Bulletin 1454.) Price, 5 cents.

Each year a large surplus of muscadine grapes which might be utilized at home in the South in culinary ways is allowed to go to waste. The best table varieties do not ship well, but if preserved in various ways they could add to the home food supply the year around and in many cases might be profitably marketed. This bulletin discusses the many uses for these grapes and describes in detail the preparation of each way in which they may be utilized. Muscadine grape sirup, which is made without the addition of sugar, can be used like maple sirup or honey on cakes or waffles, and is useful as a sugar substitute in other dishes. In addition, canned grapes, jellies, jams, conserves, marmalades, spiced grapes, paste, and catsup can also be made from muscadine grapes.

The Effect of Weather Upon the Changes in Weight of a Colony of Bees During the Honey Flow. By James I. Hambleton, apiculturist, in charge of bee-culture investigations, Bureau of Entomology. Pp. 52, figs. 12. October, 1925. (Department Bulletin 1339.) Price, 10 cents.

The annual honey crop of a colony of honeybees is dependent upon a considerable number of factors, part dealing with the activities of the bees and part resulting from the various external factors influencing the secretion of nectar by the honey plants of the locality. Although the weather is beyond the control of the beekeeper, a knowledge of the influence of weather factors upon honey crops in various parts of the country will be of great value in developing the best beekeeping regions of the United States. To gain this knowledge it is first of all necessary to keep certain colonies under observation, recording at frequent and regular intervals the weight of each, and recording such accompanying phenomena of the weather as may reasonably be supposed to influence either the secretion of nectar or the activities of the bees. The results of making a careful record of this kind with two colonies of bees at the bee-culture laboratory of the Bureau of Entomology, and the mathematical analysis of the records kept are included in this bulletin.

Saltbushes and Their Allies in the United States. By G. L. Bidwell, Bureau of Chemistry, and E. O. Wootton, formerly of the Bureau of Plant Industry. Pp. 40, pls. 10, fig. 1. October, 1925. (Department Bulletin 1345.) Price, 15 cents.

The saltbushes proper, as well as their near allies, are closely related to the beet, chard, and spinach, and a few of the wild species are used by man as "greens." Though growing wild, they are as truly forage plants in their natural distribution areas as are the common cultivated pasture plants, and are to be thought of as such. While they usually put less forage on the average acre than the cultivated species, some species cover hundreds or even thousands of square miles and so become important sources of feed. Furthermore, many of them grow on land and under conditions that will produce no other plants of economic value. As additional feed on areas producing other forage they are also important. It is not intended, says this

bulletin, to suggest that they are first-class stock feed, for they do not furnish excellent forage, as a general thing. Stock can and do subsist upon them, however, and every year thousands of meat animals reach the abattoirs without having had much of any other kind of feed.

The Brood-Rearing Cycle of the Honeybee. By W. J. Nolan, associate apiculturist, division of bee culture investigations, Bureau of Entomology. Pp. 56, figs. 29. September, 1925. (Department Bulletin 1349.) Price, 10 cents.

The quantity of nectar gathered by a colony of honeybees does not depend merely on the number of bees in the colony during the honey flow, says this bulletin. It depends, rather, upon the number of bees that are of the proper age to serve as nectar gatherers when the honey flow opens. Among some of the important factors which are within the power of the beekeeper to provide are a prolific queen, sufficient bees wintered over to meet all brood-rearing requirements in the spring, sufficient worker brood cells, sufficient stores of good honey, and proper insulation.

Soil Survey of Natchitoches Parish, Louisiana. By J. A. Kerr, B. H. Hendrickson, S. W. Phillips, J. Ambrose Elwell, Louis A. Wolfanger, and R. E. Devereux. Pp. 47, figs. 2, maps 2. (From F. O. Soils, 1921.)

Cotton is the main crop of this section and the principal cash crop of the entire parish. In the uplands the agriculture consists of stock raising and general farming. Stock is run throughout the year on the open range with little care or feed even in winter. Corn and cowpeas are extensively grown throughout the parish. Large yields of sweet potatoes are obtained and the prospect is good for the production of the crop on a commercial scale for shipment to northern markets. Alfalfa is well adapted to the soils of the parish and considerable acreage is devoted to the crop. There is urgent need for a wider use of cover crops and the practice of crop rotations for the purpose of maintaining and increasing soil fertility.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 19-24, 1925. Copies of these publications may be obtained from the stations issuing them.

Perithecia of *Thielavia basicola* Zopf in culture and the stimulation of their production by extracts from other fungi. F. A. McCormick. (Connecticut State Sta. Bul. 269, pp. 537-554, pls. 3. Aug. 1925.)
Fertilizer experiments with tobacco. N. T. Nelson and P. J. Anderson. (Connecticut State Sta. Tobacco Sta. Bul. 5, pp. 34T. May, 1925.)

The brown loess soils of Missouri and their utilization. H. H. Krusekopf. (Missouri Sta. Bul. 235, pp. 55, pls. 3, figs. 23. June, 1925.)

The correlation between sexual maturity and egg production. H. L. Kempster. (Missouri Sta. Research Bul. 78, pp. 16, figs. 2. July, 1925.)

Fowl typhoid and fowl cholera. B. F. Kaupp and R. S. Dearystine. (North Carolina Sta. Tech. Bul. 27, pp. 83, figs. 33. July, 1925.)
An introductory study of the Acarina, or mites, of Ohio. A. E. Miller. (Ohio Sta. Bul. 386, pp. 83-172, figs. 16. Aug. 1925.)

Subterranean aphids of Ohio. C. R. Cutright. (Ohio Sta. Bul. 387, pp. 173-238, pls. 6. Sept., 1925.)

Farm mortgage financing in Texas. V. P. Lee. (Texas Sta. Bul. 330, pp. 67, figs. 21. Apr., 1925.)

The influence of sulfur and gypsum upon the composition and yield of legumes. J. R. Neller. (Washington Col. Sta. Bul. 190, pp. 47, figs. 10. July, 1925.)

OFFICIAL CHEMISTS MEET AT WASHINGTON

(Continued from page 1)

The objects of the Association of Official Agricultural Chemists are: (1) To secure uniformity and accuracy in the methods, results, and modes of statement of analysis of fertilizers, soils, cattle foods, dairy products, human foods, medicinal plants, drugs, and other materials connected with agricultural industry; (2) to afford opportunity for the discussion of matters of interest to agricultural chemists. The association is of limited international character, in that its active membership includes analytical chemists connected with official institutions in the United States and Canada engaged either in research work in agriculture or in the enforcement of laws applying to any of the products covered by the work of the association.

Dr. W. W. Randall, chemist of the Maryland State Department of Health, was elected president for the ensuing year. Dr. William H. MacIntire, chemist of the Tennessee Experiment Station, was chosen vice president. Dr. W. W. Skinner, assistant chief of the Bureau of Chemistry, was reelected secretary-treasurer. Dr. Oswald Schreiner, in charge of soil fertility investigations of the Bureau of Plant Industry, and Dr. E. M. Bailey, of the Connecticut Experiment Station, were elected members of the executive committee. Dr. R. B. Deemer was reelected a member of the board of editors.

During the summer of 1925 the gipsy moth infestation over most of the infested area was quite light, and no records of defoliation caused by this insect were secured, excepting on Cape Cod, where there was a very sudden increase of the insect, according to reports to the Bureau of Entomology. It has been estimated that on Cape Cod nearly 25,000 acres were completely defoliated and nearly as many more acres were partially defoliated. This heavy defoliation occurred in towns where no large areas were defoliated in the preceding year. Although the gipsy moth infestation was light over most of the infested area, field observations indicate that it has increased slightly, so that more eggs were deposited this summer than in the previous season.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Bolvin, Raymond. La fortune agricole du Chrolais. Paray-le-Monial, Impr. nouvelle, 1924.

New South Wales. Dept. of agriculture. The farmers' handbook. 4th ed. Comp. by W. H. Brown. Sydney, 1922.

DOMESTIC ANIMALS AND VETERINARY MEDICINE

Gowen, J. W. Manual of dairy cattle breeding. Baltimore, Williams & Wilkins, 1925.

Kirk, Hamilton. The diseases of the cat and its general management. London, Baillière, Tindall & Cox, 1925.

Voitellier, Charles. Aviculture. Les races de volailles, poules, pintades, dindons, canards, oies, pigeons. Paris, Baillière, 1925.

FARM MACHINERY

Radebaugh, G. H. Standard mechanical practices in repairing farm machinery and equipment. Milwaukee, Wis., Bruce publishing co., 1923.

SOILS

Emerson, Paul. Soil characteristics. New York, McGraw-Hill, 1925.

Terzaghi, Karl. Erdbaumechanik auf bodenphysikalischer grundlage. Leipzig, F. Deuticke, 1925.

HORTICULTURE

Leclerc, Henri. Les fruits de France: historique, diététique et thérapeutique. Paris, Masson, 1925.

Quackenbush, A. T. A. All in a garden fair. New York, A. T. de la Mare, 1925.

HOUSEHOLD DECORATION

Crane, Ross. The Ross Crane book of home furnishing and decoration. Chicago, F. J. Drake, 1925.

RUGS

Phillips, Mrs. A. M. L. Hooked rugs and how to make them. New York, Macmillan, 1925.

CHEMISTRY AND CHEMICAL TECHNOLOGY

Bunbury, H. M., and Davidson, A. The industrial applications of coal-tar products. London, E. Benn, 1925.

Ingle, Herbert. A manual of agricultural chemistry. 4th ed. London, Scott, Greenwood, 1920.

BIOLOGY AND MICROSCOPY

Cutler, D. W. Evolution, heredity and variation. London, Christophers, 1925.

Hurst, C. C. Experiments in genetics. Cambridge, Eng., University press, 1925.

Romels, Benno. Taschenbuch der mikroskopischen technik. 11. auf. des Taschenbuches der mikroskopischen technik von A. Böhm und A. Oettel. München, R. Oldenbourg, 1924.

ZOOLOGY

Balfour-Browne, Frank. Concerning the habits of insects. Cambridge, Eng., University press, 1925.

Jacquet, Edmond. Guide du cultivateur. Les insectes nuisibles au potager et au verger. Limoges, Société des publications rurales, 1925.

Moritz, Julius. Die reben Schädlings, vornehmlich die Phylloxera vastatrix. 2. auf. Berlin, P. Parey, 1891.

Wyman, L. D., and Burnell, E. F. Field book of birds of the southwestern United States. Boston, Houghton Mifflin, 1925.

BOTANY

Fernald, M. L. Persistence of plants in unglaciated areas of boreal America. Boston, 1925. (Memoirs of the Gray herbarium of Harvard university. 2.)

Lepeschkin, W. W. Lehrbuch der pflanzenphysiologie auf physikalisch-chemischer grundlage. Berlin, J. Springer, 1925.

Stiles, Walter. Photosynthesis: the assimilation of carbon by green plants. London, Longmans, Green, 1925.

ECONOMICS AND STATISTICS

Carver, T. N. The present economic relation in the United States. Boston, Little, Brown, 1925.

Cassa nazionale per le assicurazioni sociali. La disoccupazione e l'assicurazione contro la disoccupazione in Italia dal 1919 al 1924. Roma, 1925.

Castellani, Maria. Sulla frequenza della invalidità. Roma, Cassa nazionale per le assicurazioni sociali, 1925.

Chase, Stuart. The tragedy of waste. New York, Macmillan, 1925.

Felton, R. A. A Christian in the countryside. New York, Methodist book concern, 1925.

Gt. Brit. Liberal land committee. The land and the nation. London, Hodder and Stoughton, 1925.

Harlan, Rolyx. A new day for the country church. Nashville, Tenn., Cokesbury Press, 1925.

International institute of agriculture. Bureau of agricultural intelligence and plant diseases. Les offices de comptabilité agricole dans les divers pays. Rome, 1924.

Mraz, Josef, Smutný, Pavel, and Malík, Karel. Quelques considerations sur la statistique de la production industrielle. Prague, Office de statistique de la République Tchecoslovaque, 1925.

Mukerjee, Radhakamal. Groundwork of economics. London, Longmans, Green, 1925.

Oxford. University. Institute for research in agricultural economics. An agricultural atlas of England and Wales. Southampton, Eng., Ordnance survey, 1925.

Raiffeisen, F. W. Die darlehenskassen-vereine. 6. auf. Newleid, Deutsche Raiffeisenbank a.-g., 1923.

Articles by Department Workers in Current Publications

Adams, L. A. (Agricultural Economics). Shopping for meats. To-day's Housewife. October, 1925.

Bateman, E., and C. Henningsen (Forest Service). The toxicity of petroleum. Proceedings of the American Wood Preservers' Association, 1925.

— A theory on the mechanism of the protection of wood by preservatives. Pt. 6. Proceedings of the American Wood Preservers' Association, 1925.

Browne, E. L. (Public Roads). Transportation of milk by motor truck into Chicago. Pt. 2. Power Wagon, vol. 35, pp. 22-26. October, 1925.

Frysjonger, G. E. (Office of Cooperative Extension Work). A look in the mirror. The Country Gentleman, vol. 90, no. 36, pp. 28, 128. October, 1925.

Goldbeck, A. (Public Roads). Designing pavement reinforcement. Public Works, vol. 56, pp. 329-330. September, 1925.

— Interrelation of longitudinal steel and transverse cracks in concrete pavements. Highway Engineer & Contractor, vol. 13, pp. 43-46. October, 1925.

Granger, C. M. (Forest Service). The business man's part in forest conservation. West Coast Lumberman, October 1, 1925.

Hall, M. C. (Animal Industry). The essential factors in anthelmintic medication. N. Am. Vet., vol. 6, no. 10, pp. 33-36. October, 1925.

Helpfenstine, R. K. Jr. (Forest Service). Quantity of wood treated and preservatives used in the United States in 1923. Proceedings of the American Wood Preservers' Association, 1925.

Howell, A. Brazier (Biological Survey). On pathologic skulls of captive lions. Journal of Mammalogy, vol. 6, no. 3, pp. 163-168. August, 1925.

Hughes, M. J. (Animal Industry). Nails in sow's stomach. J. Am. Vet. Med. Assn., vol. 68, no. 1 (n. s. vol. 21), p. 23. October, 1925.

Hunt, G. M. (Forest Service). Eighteen years' successful experience with treated mine timber. Mining Congress Journal, September, 1925.

Jewett, Stanley G. (Biological Survey). Second occurrence of the Pribilof fur seal on the Oregon coast. Journal of Mammalogy, vol. 6, no. 3, p. 200. August, 1925.

MacLean, J. D. (Forest Service). The relative cost of treated and untreated timber. Proceedings of the American Wood Preservers' Association, 1925.

McKay, J. G. (Public Roads). Commodity transportation by motor truck. Highway Engineer and Contractor, vol. 13, pp. 64-66. October, 1925.

McKay, J. G. and O. M. Elvehjem (Public Roads). Forecasting highway traffic. Engineering & Contracting (Roads & Streets), vol. 64, pp. 773-781. October 7, 1925.

Mohler, J. R. (Animal Industry). Fowl pest. Eggs, vol. 1, no. 14, pp. 1, 7; no. 15, p. 8; no. 16, p. 10. August, September, October, 1925.

— Outlines of tuberculosis eradication. Vet. Med., vol. 20, no. 10, pp. 447-453. October, 1925.

Tuberculosis is decreasing. Breeders' Gazette, vol. 38, no. 9, p. 107; no. 10, p. 222; no. 13, p. 327. August 27, September 3, September 24, 1925.

Murie, O. J. (Biological Survey). Eskimo dogs of the Arctic frontier. Nature Magazine, vol. 6, no. 2, pp. 75-78. August, 1925.

Murphy, L. S. and others (Forest Service). The general property tax and forest property. Journal of Forestry. September-October, 1925.

Nelson, E. W. (Biological Survey). Some of the large game animals of North America. Outdoor Life, vol. 56, no. 5, pp. 356-357. November, 1925.

Palmer, T. S. (Biological Survey). Quail hunting in 1925. American Field, vol. 104, no. 42, pp. 444-445. October 17, 1925.

Purcell, C. H. (Public Roads). Profit and loss in road building. Constructor, vol. 7, pp. 31-32. August, 1925.

Rue, J. D. (Forest Service). Soluble sulphites and their bisulphites in the pulping of wood: A review of the literature. Paper Trade Journal, October 15, 1925.

— Semicellulose and semicellulose pulping: A review of publications relating to the subject. Paper Trade Journal, October 15, 1925.

Rue, J. D., and W. Monsson (Forest Service). A new method of cooking straw for straw-bale. Paper Trade Journal, October 8, 1925.

Rue, J. D., and F. G. Rawling (Forest Service). A proposal for reducing the contamination of streams by strawboard mills. Paper Trade Journal, October 8, 1925.

Schroeder, E. C. (Animal Industry). A few comments on burine infestation. J. Am. Vet. Med. Assn., vol. 68, no. 1 (n. s. vol. 21), pp. 19-20. October, 1925.

Smith, E. B. (Public Roads). Truck tire tests by U. S. Road Bureau. Municipal and County Engineering, vol. 69, pp. 162-164. September, 1925.

— Truck tire tests of the U. S. Bureau of Public Roads. Power Wagon, vol. 35, pp. 28-29. October, 1925.

Smith, W. D. (Agricultural Economics). Aims and accomplishments of the office of rice investigations. Bureau of Agricultural Economics. Rice Journal, September, 1925.

Taylor, Walter P. (Biological Survey). Up-land game birds in the State of Washington with a discussion of some general principles of game importation. California Fish and Game, vol. 11, no. 3, pp. 87-103. July, 1925.

Thelen, R. (Forest Service). Purchase contract specifications necessary in buying kiln-dried lumber. Music Trade Review, October 3, 1925.

Trount, C. E. (Agricultural Economics). Spring wheat producers can prevent dockage losses. Montana Farmer, August 15, 1925.

Wilka, R. M. (Forest Service). Temperature and moisture changes in wood under steaming treatment. Proceedings of the American Wood Preservers' Association, 1925.

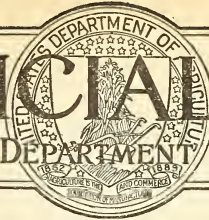
Yohse, H. S. (Agricultural Economics). Financing potatoes while in storage. Potato News Bulletin, September, 1925.

CIVIL-SERVICE EXAMINATION

Junior chemist, \$1,860. Vacancies in the Federal classified service throughout the United States, including the departmental service, Washington, D. C., and the Forest Products Laboratory of the Bureau of Forestry, Madison, Wis., will be filled from this examination. The entrance salary for these positions in the District of Columbia is \$1,860 a year. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year; for appointment outside of Washington, D. C., the range in salary will be the same, but the entrance salary need not be at the minimum of \$1,860 a year. Promotion to higher grades up to \$5,000 a year may be made in accordance with the civil service rules, provided the employees possess the qualifications deemed necessary for the corresponding advance in duties and responsibilities. There is at present a vacancy at Denver, Colo., in the research laboratory of the Bureau of Biological Survey at entrance salary of \$1,860 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close November 28, 1925.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., NOVEMBER 11, 1925

No. 45

SECRETARY CONFERS WITH CO-OP LEADERS

Establishment of Division of Cooperative Marketing Approved at Recent Conference

On October 29 and 30 Secretary of Agriculture Jardine was in conference with a representative group of national leaders of cooperative marketing associations to determine their wishes with regard to any way in which the department might more effectively serve the cooperative movement in its many aspects. For several weeks Secretary Jardine has conferred with cooperative leaders from different sections of the country with the desire to determine how the work of the department might be directed to be more helpful to this important farm movement.

Will Present Proposal to Congress

The conference of some 20 leaders heartily approved the idea of extending the scope of the department in this field and worked out a definite plan to bring this about. Among other things it is proposed that the work of the department should be strengthened by the establishment of a division of cooperative marketing. According to a statement made at the department November 1 this plan meets the unqualified approval of Secretary Jardine. It is pointed out, however, that this plan is in its formative stage and will be discussed with other cooperative leaders during the next few weeks with the idea in mind that a definite proposal, with the support of all cooperative organizations, will be presented at the coming session of Congress.

Among those who conferred with the Secretary were:

John Brandt, president Minnesota Cooperative Creameries; J. S. Montgomery, general manager Central Cooperative Commission Association; C. O. Moser,

general manager American Cotton Growers' Exchange; Carl Williams, editor Oklahoma Farmer-Stockman, vice chairman National Council of Farmers' Cooperative Associations; A. U. Chaney, general manager American Cranberry Exchange; Richard Pattee, manager-director New England Milk Producers, chairman American Institute of Cooperation; William H. Settle, president Indiana Farm Bureau; Herman Steen, secretary-treasurer Indiana Wheat Growers; C. A. Stewart, general manager National Livestock Producers' Association; J. D. Miller represented by Seward H. Miller, assistant counsel Dairymen's League; Walton Peteet, secretary National Council of Farmers' Cooperative Marketing Associations; Dan Wallace, director, Minnesota Potato Growers' Exchange; L. B. Palmer, president Ohio Farm Bureau; C. B. Denman, president National Livestock Producers' Association; Charles W. Holman, secretary National Cooperative Milk Producers' Federation; J. W. Shorthill, secretary Farmers' National Grain Dealers' Association.

Report on European Study of Foot-and-Mouth Conditions

Replying to the complaints and criticisms frequently heard concerning the slaughter method of combating foot-and-mouth disease, and to the assertions that diseased herds should be quarantined and treated as in Europe, the Bureau of Animal Industry has published the following statement from a recent report made by the commission which it sent to Europe to study the disease:

"* * * we desire to emphasize that at this writing we are of the opinion more than ever before that the United States should do all in its power to prevent the disease from getting a foothold, and thus becoming enzootic, as it is now in continental Europe.

"In Europe they are simply up against it, * * *. Some countries like Switzerland and Sweden make strenuous efforts to keep the disease in check, in

(Continued on page 3)

NATION-WIDE STUDY OF FOREST TAXATION

Professor Fairchild Will Assist in Work Provided for in Clarke-McNary Forestry Act

The Forest Service is launching a nation-wide study of the forest tax problem in relation to reforestation, and in this connection has just announced the appointment of Prof. Fred R. Fairchild, of Yale University, as director of the investigation.

A detailed study of forest tax problems will be made in the principal forest regions of the United States to determine the effect of present tax laws on reforestation and timber holding, and the conditions that must be met in any effort to readjust present tax laws so as to be fair both to the landowner and the country.

Study Authorized by Congress

The study is the outgrowth of a country-wide investigation of reforestation conducted by a special committee of the United States Senate in 1923-24. This committee came to the conclusion that timber growing would be greatly stimulated by giving landowners security against unjust and burdensome taxation. Provision for the study is embodied in the Clarke-McNary Forestry Act, passed by the last Congress.

Professor Fairchild, who will take active charge of the work about the middle of this month, is an authority on general tax problems and on forest taxation in particular. He has written much on general taxation problems and has frequently acted in the capacity of consulting tax expert to municipalities and States.

Since 1904 he has been connected with the department of economics of Yale University, acting for the past six years as chairman of that department. In 1918 he served the military government of San Domingo and in 1923 the Republic of Colombia as tax expert, assisting

these Governments to plan national revenue systems. For several years he has served as a member of the advisory committee of the financial department of the Chamber of Commerce of the United States, and also of the National Commission on Federal and State Inheritance Taxation.

Timber Crops Important

Commenting on the appointment of Professor Fairchild, Chief Forester William B. Greeley stressed the importance to the country of the proposed investigation.

"Timber growing as a private business is of the utmost importance to the welfare of this country," said Colonel Greeley. "This activity will be hampered by the uncertainties of forest taxation, and it is necessary to devise systems of forest taxation that will not tax growing forests over and over again before they reach merchantable size.

"The tax investigation provisions of the Clarke-McNary law are aimed directly at getting the facts on which to base forest tax reform, so that State tax legislation will encourage rather than hinder the cause of reforestation. As the result of this investigation it is expected that the Federal Government will be able to help the States in a national reform of forest taxation.

"I regard this tax study as one of the most important steps of recent years in forest conservation, and the Forest Service is fortunate in securing Professor Fairchild to conduct the work."

Aim for Practical Results

The purpose of the section of the Clarke-McNary law providing for the forest tax investigations is clearly interpreted by Secretary of Agriculture Jardine as aiming for practical results rather than merely theoretical study of the taxation of forest land. Professor Fairchild's staff will study actual conditions both of present-day forest taxation and its effects and the effects of proposed changes in the tax systems on State and county revenues.

The field of information which the department wishes to cover in this investigation is extensive, ranging from the constitutional, legislative, and traditional basis for taxation in different States to the practical matters of levying assessments and collecting taxes. Intensive studies will be made in typical counties of the character and age of timberlands and what taxes they have paid over a series of years, how these taxes compare with those paid on other kinds of property, and just how important forest lands are now and will be in future years in the general scheme of local revenue.

Forest Taxation Little Understood

The effect of the existing tax situation on timber growing and reforestation is little known at present, save in a few specified instances. The study will go into the land policy of timberland owners, the purchase and blocking up of forest land units, the relinquishment of forest land for delinquent taxes, the policy of owners with regard to maintaining continuous production of timber on their lands, and the efforts at reforestation on the part of owners of cut-over land.

A third group of facts, at present lacking, will tend to show how modified systems of taxation may be worked out, which would cause the minimum disturbance to local finances and at the same time bring relief to owners of growing timber from the danger of excessive taxation. It is probable that at the same time information will be collected regarding systems of forest taxation in foreign countries.

Will Concentrate Tax Study

The investigative work on forest taxes as planned tentatively will be concentrated at first in a single State or region until methods of study are worked out, whereupon the study will probably be carried on simultaneously in three forest regions, such as the Northeast, the South, and the West.

The technical personnel that will assist Professor Fairchild will consist of a carefully selected group of foresters and economists. This staff of experts will cooperate in every possible manner with local agencies, such as State tax commissioners, State forestry organizations, local county and township officials, and private interests, as well as with the several Federal bureaus interested.

It is expected that this exhaustive investigation will result in practical suggestions for State legislation that will take into consideration local financial needs and administrative limitations quite as concretely as the interests of forest-land owners.

WILL SURVEY FARM EQUIPMENT

The department has undertaken an exhaustive survey of the field of research relating to farm-operating equipment. The immediate objective is to find out just what has been done along this line and to outline a program for future work that will serve as a guide to the colleges, the farm-implement industries, and other agencies concerned in the fundamental engineering problems of this

field. J. B. Davidson, head of the department of agricultural engineering, Iowa State College, has been selected to supervise the project. He will be aided by an advisory council appointed by Secretary Jardine and composed of eight representatives each of the National Association of Farm Equipment Manufacturers and the American Society of Agricultural Engineers and three representatives of the Department of Agriculture.

The project is the outcome of a conference between Secretary Jardine and representatives of the National Association of Farm Equipment Manufacturers and the American Society of Agricultural Engineers, and the results will fill a long-recognized need on the part of the department and other research agencies for a well-thought-out program of work in this field.

In recognition of the necessity of enlisting for such an ambitious undertaking the cooperation of agencies interested in the various phases of the subject, Secretary Jardine appointed the following as members of the advisory council:

- Prof. R. U. Blasingame, Pennsylvania State College.
- Prof. L. J. Fletcher, University of California.
- Prof. J. B. Davidson, Iowa State College (director).
- Prof. F. W. Duffee, University of Wisconsin.
- G. W. Iverson, Advance-Rumely Thresher Co.
- H. C. Lisle, Bean Spray Pump Co.
- R. B. Lourie, John Deere Plow Co.
- Thos. H. MacDonald, United States Department of Agriculture.
- S. H. McCrory, United States Department of Agriculture.
- D. McDonald, Jr., B. F. Every & Sons.
- J. C. Myers, F. E. Myers & Bro. Co.
- Prof. M. L. Nichols, Alabama Polytechnic Institute.
- Prof. Dan Scoates, Texas A. and M. College.
- Prof. Charles E. Seitz, Virginia Polytechnic Institute.
- Prof. Oscar W. Sjogren, University of Nebraska.
- Prof. H. B. Walker, Kansas State Agricultural College.
- W. L. Weintz, J. E. Porter Corporation.
- F. A. Wirt, J. I. Cace Threshing Machine Co.
- Arnold P. Yerkes, International Harvester Co.

Anton Erkelenz, leader of the Democratic Party in the German Reichstag, was a recent visitor at the department.

Mr. Erkelenz is spending four months in this country studying economic, agricultural, and social conditions. He is especially interested in the cost of production of American agricultural products, because of its bearing on the agrarian tariff question in Germany.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

500,000 MILES OF SURFACED ROADS

The mileage of surfaced roads in the United States is nearing the half million mark, according to the Bureau of Public Roads of the department. Some weeks ago the State reports indicated that there were 128,347 miles of surfaced road on the State systems at the end of 1924, and similar subsequent reports from the States indicated that mileage of surfaced county roads was 339,558, making a total of 467,905 miles. While it is probable that the estimate of county roads is not so accurate as that of the State roads, the above figure is probably not too large.

LUMBER FIGURES GIVEN IN BOOKLET

For the first time in the history of the lumber industry the Federal Government has compiled statistics showing the distribution and consumption, as well as the production, of lumber. These figures were worked out by the Forest Service and are published in "The Principal Lumber Industries," a booklet just issued by the Bureau of the Census.

RESUME THRESHING IN CANADA

Grain threshing in Canada has been resumed after several weeks' delay from unfavorable weather conditions, according to telegrams received October 31 by the department from United States consuls in each of the prairie Provinces. The quality of the grain has been lowered by the inclement weather. Rough estimates place the amount of wheat to be threshed at about 100,000,000 bushels.

TO STUDY RABBIT PRODUCTION

D. Monroe Green, formerly with the Bureau of Animal Industry, has been transferred to the Bureau of Biological Survey as assistant in the division of fur resources, and will devote much of his time to the rabbit industry. He will visit rabbitries in various sections of the United States to study practices in breeding, feeding, and handling rabbits, and will give particular attention to methods of marketing meat and fur. Breeding experiments with rabbits will be conducted by the Biological Survey on its experimental fur farm at Saratoga Springs, N. Y., and other projects will be

carried on in cooperation with individual breeders or rabbitries.

A study will be made of handling rabbit skins on the raw-fur market as well as of methods employed in dressing and dyeing them. In conducting this work the bureau is endeavoring to determine under what conditions rabbits can be raised profitably for food and fur. It is attempting also to promote sound education in rabbit raising and to assist breeders in combating diseases of the animals and in other problems, with a view to benefiting the industry as a whole.

Report on European Study of Foot-and-Mouth Conditions

(Continued from page 1)

spite of all obstacles, while the majority of countries visited feel that they can do no more than impose a very ineffective quarantine and take the consequences.

"It is extremely doubtful whether it would be possible with the severest form of quarantine to prevent an extensive spread of the disease to practically all parts of the United States.

"Switzerland enforces very strict quarantine measures, in some instances covering large territories. In such communities the people are prohibited from having direct intercourse with free areas. Food, mail, and other necessities of life are brought to them by special officers for eight weeks after the recovery of the last case. In the United States the direct cost of similar methods would be tremendous, and the indirect cost to the farmers and other interests would be staggering and would be many times the cost of our present methods. * * *

"European officials with whom we have discussed methods of combating foot-and-mouth disease agree that situated as we are and the disease limited to only a comparatively small percentage of animals, the slaughter and clean-up method is the only effective one and is the most economical. They can not adopt this method because the disease is so widespread all over Europe that slaughtering would be futile in most cases. * * *

"Until more definite information is at hand to point out under which condition the virus is soon destroyed, and which are the conditions which make it possible for the virus to remain active, and point out which animal may and which does not harbor the infection, we must consider that all recovered cases are possible carriers, even if the percentage of such cases is small and we must consider that virus may live a considerable length of time outside of the animal body under some condition,

and we must continue our methods of eradication while it is still possible to do so. Otherwise we will find ourselves in the same condition as Europe and South America find themselves, saddled with the foot-and-mouth disease."

The only conclusion that can be drawn from the above statement, according to Doctor Mohler, chief of the bureau, is that until the pathology of foot-and-mouth disease is better understood the slaughter method is the only practicable one for this country.

SIMILAR BRAND NAMES CONFUSING

Similar brand names for food products confuse consumers and very often defeat the purpose for which brands are selected, the department has found in a study of the use of brands in the sale of butter in Washington, D. C.

The survey showed that 39 different brands of butter were used by 421 housewives. Seventy-nine different brands were set down out of memory by these housewives. Many brand names were inaccurately stated, especially where brand names are similar or have similar meanings.

The most popular brand of butter was found to be one put up by an important chain-store system. Second in popularity was a brand marketed by this chain-store system, and which six months prior to the survey had never been sold in the District. The brand had been widely advertised and quality and economy were stressed.

Housewives frequently try new and different brands of butter, it was found. Half the women replying to the questionnaires had used one brand two and one-half years or less; approximately 16 per cent had used their present brand less than six months, and an equal number from seven months to one and one-half years. Only 8 per cent had used one brand for over 10 years. Price and quality were found to be of primary importance to housewives when buying butter.

DECREASE DUTY ON BOBWHITE QUAIL

By a proclamation of October 3, President Coolidge has reduced the duty on live bobwhite quail valued at \$5 or less, each, from 50 to 25 cents each. This was done under a section of the tariff act which authorizes such a decrease in rate of duty when investigation shows that differences in cost of production in the United States and the principal competing country make it necessary. As heretofore, permits for entries will be issued by the Secretary of Agriculture, but matters relating to duty are handled by officers of the customs.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

Published every Wednesday at
WASHINGTON, D. C.

THE OFFICIAL RECORD is published as a means of communicating to workers and cooperators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

REQUEST TRUCKS FOR XMAS MAIL

In order to secure the full cooperation of the department, Secretary Jardine is making public the following letter from H. C. Smither, chief coordinator:

"In view of the great saving to the Government effected in previous years by the cooperation of other departments in lending trucks to the Post Office Department for handling mail during the Christmas mailing season, it is desired that a similar procedure be followed this year.

"It will therefore be appreciated if it can be found practicable to have all branches of the Department of Agriculture throughout the country to place at the disposal of area coordinators, for temporary assignment to the Postal Service, such trucks as can be made available for this purpose.

"The Post Office Department will furnish the gasoline, oil, and grease necessary in the operations of vehicles borrowed, keep them in repair during the period of their use, and will return them to the point from which obtained in the same condition in which they were turned over to the post office. Drivers may be required for borrowed trucks in some cases, and the cooperation of departments lending trucks is also desired in this connection.

"Information as to action taken in this matter will be appreciated by this office."

Following is a list of area coordinators, corrected to date:

I Area.—Commander Stephen C. Rowan, United States Navy, quartermaster intermediate depot, Army base, Boston 9, Mass.

II Area.—Capt. William S. Miller, United States Navy, 728 Customhouse, New York City. Telephone, Broad 1642.

III Area.—Capt. McGill R. Goldsborough, United States Navy, Customhouse, Philadelphia, Pa. Telephone, Lombard 7220.

IV Area.—Lieut. Col. Dennis P. Quinlan, United States Army, 326 Post Office Building, New Orleans, La.

V, VI, and VII Areas.—Commander Arthur B. Cook, United States Navy, 629 Federal

Building, Chicago, Ill. Telephone, Harrison 4700, local 20.

VIII Area.—Lieut. Col. William A. Austin, United States Army, care of headquarters, VIII Corps Area, Fort Sam Houston, Tex.

IX Area.—Capt. Lloyd S. Shapley, United States Navy, 433 Customhouse, San Francisco, Calif.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the Office of Personnel and Business Ad-

INTRODUCTION

I am an institution of helpfulness, the outgrowth of an American need, a university of service.

Day by day I make a ceaseless appeal for acquaintanceship. Year by year the genius I court finds expression in benefit to humanity.

I make the cultivation of land pay, conserve the forests, protect the life of birds, improve the soil, forecast the weather—in all functions I am the friend of the farmer and of all others.

My scientists are constantly solving difficult problems; my veterinarians are ever safeguarding public health; my engineers are building new highways and bringing people nearer to each other; my inspectors never cease their vigilance in protecting consumers from misbranded and adulterated food products; my entomologists are tireless in their endeavor to eradicate harmful insects. I discover both animal and plant diseases and prevent or retard their spread. My agents afield forecast the crops. My explorers introduce new useful plants. My marketing specialists improve the distribution of farm products.

County agents, representing me, the State, and the county, are found everywhere as first aids to the people on the land. No farm dweller is so isolated but that either my spoken or printed word comes to be the counsellor-at-the-door. To boys and girls in rural districts I am the Master Club Leader. To the novice farmer I am a reservoir of information, while the veteran recognizes me as a leader in the field.

I manifest myself in numerous ways—in wheat and corn fields, in mighty forests, on national and State roadways. But my true dignity is in every home—for the bread, the meat, the fruit, the dairy products have all passed the muster of my guardianship.

I am an ever-willing collaborator in the period of reconstruction. True to my seal of office, I largely contribute to stabilizing manufacture and commerce.

I AM THE DEPARTMENT OF AGRICULTURE.

—Louis Varnum Wolfe.

ministration, action has been taken upon the retirement of the following employees of the department:

Mr. Thomas Lee, an assistant gardener in the Bureau of Plant Industry, was retired on account of total disability on June 4, 1925. He was born on December 15, 1874, and was more than 50 years of age on date of retirement. He had

served continuously in this department since July 1, 1902, a period of 22 years 11 months and 4 days.

Mr. James L. Whiteside, a senior observer in the Weather Bureau, was retired on account of age on May 21, 1925. He was born on November 20, 1852, and was more than 72 years of age on date of retirement. He was eligible for retirement on November 20, 1922, but was continued in the service in order to remain in charge of the chart work of the telegraph division of the Weather Bureau in the Washington office. Prior to coming with this department Mr. Whiteside served with the meteorological section of the Signal Corps. This work was transferred to the Department of Agriculture on July 1, 1891, under the Weather Bureau, and Mr. Whiteside served continuously in that bureau up to the date of his retirement, a period of nearly 35 years. His total governmental service at the date of retirement was approximately 43 years.

Mrs. Carrie E. Johnston, a principal clerk in the extension service of the office of the Secretary, was retired on July 15, 1925, under the provisions of the retirement act as amended by the act of September 22, 1922. Mrs. Johnston had served continuously in this department since September 30, 1889, being with the Office of Experiment Stations for a long number of years. Her total departmental service up to date of retirement was 35 years 10 months and 16 days.

Mr. Frank T. Smith, a forest ranger, in the Forest Service at Deadwood, S. Dak., was retired on account of total disability on April 14, 1925. He was born on May 24, 1856, and was more than 68 years of age at the date of retirement. Prior to coming to this department he served in the United States Army as private and sergeant from May 13, 1898, to September 9, 1898. He had served continuously in this department since February 1, 1905, a period of 20 years 3 months and 14 days.

Highway research is featured in the exhibit of the Bureau of Public Roads at the all-western road show being held at San Francisco November 9 to 14. Instructive and interesting booths have been prepared dealing with the results of the bureau's traffic surveys, the movement of soil moisture, motor-truck impact investigations, methods of producing better concrete developed as a result of research, new methods of improving cheap types of roads, and suggestions derived from the bureau's studies for the more economical operation of earth-moving equipment.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Kansas.—F. W. Caldwell, county agent for Finney County, has resigned.

Montana.—C. R. Mountjoy has been appointed assistant county agent with the Montana State College Extension Service, in accordance with the recently approved plan by which new agricultural agents in the Montana Extension Service will first be given appointments as assistants for the State at large in order to become thoroughly familiar with the work and organization of the extension service in the State. After serving three or four months as assistant county agent at large, Mr. Mountjoy will probably be appointed county agent in one of the counties where extension work is about to be started. E. H. Lott, assistant county agent leader, has gone to the University of Wisconsin to study economics and sociology.

Ohio.—Nellie Watts has been appointed home demonstration agent in Warren County to succeed Alta Kizer, who has joined the home economics teaching staff at the State university. Rossie Greer has been made acting home demonstration agent in Huron County to replace Nancy Folsom, now on leave at Columbia University. Henry M. Taylor has been appointed county agent in Brown County to take the place of B. P. Hess, who is doing research work in rural electrification at the State university.

IMPORTANT DEVELOPMENTS

The organization and development of the Pondera Poultry Growers' Association is one of the outstanding examples in the State of how the Montana Extension Service serves in cooperative marketing activities. A few years ago the turkey growers of Pondera County raised their birds, fitted, packed, and marketed them as best they could as individuals. As a result they were getting comparatively low prices for their product, partly because there was little attempt to produce the high-quality birds which the market demands, partly because the birds were not properly graded and packed, and partly because there was little market information. The county extension service saw the opportunity of correcting the difficulties and held a series of meetings with the turkey growers and induced them to form a cooperative marketing association. The extension service supplied the information for the organization of the association and gave all possible assistance, such as culling, killing, picking, and

packing demonstrations. The first organization was strictly a turkey marketing association, but in 1924 it was reorganized as the "Pondera Poultry Growers' Association," and a program of general poultry improvement and marketing for the entire county was launched. The association markets its birds in the most approved manner under its own trademark, and Pondera-brand birds have been getting top prices. Last year through the Pondera Poultry Growers' Association turkey growers of the county marketed 100,000 pounds of turkeys, and it is probable this figure will be reached again during the coming holiday marketing season.

The Ohio Poultry Improvement Association, organized a year ago by poultrymen at the Ohio State University, reports a large number of accredited flocks and hatcheries on its list. Fifty-five hatcheries, with an egg capacity of 3,000,000 eggs a setting, are members, and they are served by 2,500 accredited flocks. The association is self-supporting and its members pay fees for all services rendered by the college and extension service. It employs a full-time field manager. During the past year about \$9,000 was collected in fees for accrediting and certifying flocks. This amounts to more than the annual budget for poultry extension work in the State.

Though Ohio home economics specialists covered the State three years ago with the dress-form project, the work is still going on. The work of local leaders, trained three years ago, who are showing their neighbors how to make dress forms, has caused a demand for another edition of the dress-form bulletin.

GERANIOL—NEW ATTRACTIVE AGENT

A new attractive agent, geraniol, for use in Japanese beetle control work, was demonstrated during the course of an observation tour conducted in New Jersey in August. The party consisted of a number of orchardists and entomologists who were especially interested in the work of the Japanese Beetle Laboratory of the Bureau of Entomology. About 100 acres of demonstration orchards were visited. The orchards consisted of peaches, apples, cherries, and grapes. The demonstration of geraniol was held in one of the orchards, using the attractor to draw the beetles into a limited area, where they could be killed by a contact spray, consisting of oleoresin of pyrethrum and soap. This has been developed at the laboratory during the past season and has given remarkably good results.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Which yields a greater amount of sugar, a ton of sugar cane or a ton of beets? How does the sugar from each source compare in quality?

Answer. The average yield of sugar for 1924 from a ton of sugar cane was 148 pounds and from a ton of beets 285.6 pounds. There is no difference in quality or chemical composition between sugar produced from sugar cane and that produced from sugar beets, comparison being made on a standard granulated product from both sources.

Question. Do the germs of bovine infectious abortion attack human beings, and are such germs related to the germs which cause Malta fever, as suggested in recent medical literature?

Answer. This question is similar to many received by the Bureau of Animal Industry and appears to be a natural sequel to the articles which have appeared in medical publications on the subject. Dr. E. C. Schroeder, superintendent of the bureau's experiment station, who has conducted research with bovine contagious abortion for many years, holds the following views on this question: There is truly a remarkable, close resemblance between the germs of bovine infectious abortion and those of Malta or undulant fever. However, the evidence tending to show that the germs of bovine infectious abortion menace human health is exceedingly meager and uncertain. Surely if the abortion and the Malta fever germs were identical or if either were transformable into the other, the widespread occurrence of bovine infectious abortion among American and European cattle and the common presence of the abortion germ in the milk of infected cows would have caused many thousand definitely proved cases of Malta fever and not only a few alleged cases. However, disease germs in articles of food, whether or not they have been proved to injure human health, are always to be looked upon as objectionable and potentially dangerous. But complete protection can be gained through the simple expedient, pasteurization, which also gives protection against a number of real and definitely known dangers incident to the use of raw milk.

Leon Margolin, agricultural economist at the Agricultural Academy of Moscow, Russia, was a recent visitor at the department. Mr. Margolin was especially interested in farm management and cost-of-production studies.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

PREDICTING FOREST FIRE WEATHER

The total number of forest fires in the United States in 1924 is estimated by the Forest Service as 92,000, accounting for 29,000,000 acres burned over and \$38,000,000 in direct timber and property loss. In view of these figures it is not surprising that the Forest Service directs a substantial portion of its research activities toward discovering means of reducing this large burned acreage and of catching forest fires while small.

The principal contributing factor in the forest-fire problem, of course, is fire weather—those months of drought, days of dry winds, or hours of especially low humidity, when fires will catch and spread with dangerous rapidity and when every fire-suppression organization must be on tiptoe and fully equipped to respond to every "smoke" reported, even when these number perhaps a hundred different calls within 48 hours or less.

For such preparedness the Forest Service is depending more and more on Weather Bureau bulletins, often cooperating with the Weather Bureau and with State and private forest owners to receive and relay these bulletins, which predict weather conditions for specific regions one to three days in advance, to every forester within the region who can make use of them. In many instances the broadcast warning is supplemented for local application by Forest Service observations on forest inflammability through such factors as dryness of forest litter or relative humidity within the forest itself; and experiments are constantly under way that aim to perfect these local fire-danger indicators.

The perfecting of these indicators by which general warnings are translated into terms of actual local fire danger is being carried out along several lines, according to the peculiarities of the different major forest regions. Conditions in the Pacific Northwest emphasize the value of relative humidity as a reliable indicator of fire danger. Experiments with the sling psychrometer, which records contrasting temperature readings from wet and dry bulbs, indicate that fire danger there is a matter not only of certain days of low humidity but even of certain hours in the day. Efforts are now being made to work out

a correlation between static and humidity whereby forecasts of humidity can be advanced materially.

In the northern Rocky Mountains foresters are more favorably impressed with the moisture of forest fuels as an indicator, particularly that of the ground litter, or "duff." The Forest Service has perfected an instrument called a "duff hygrometer," somewhat resembling a clock pendulum. When the shaft is thrust horizontally into the surface litter of the forest about an inch deep, the hygrometer dial registers the degree of inflammability of this fuel.

In the California pine region the heavy losses of the fire season usually occur in brief periods of extreme fire danger, known as "blow-up days." To anticipate and prepare for these periods is not easy. For the most part foresters here depend upon the Weather Bureau forecasts of humidity and wind velocity and local observations of the same phenomena. Efforts are constantly being made to discover a basis for longer forecasts, but this is rendered difficult by the fact that blow-up days may occur in the middle of a season otherwise generally favorable.

WITH EXTENSION FORCES

COPPER CARBONATE FOR SEED WHEAT

Wheat is one of the leading crops in Franklin County, Wash., and as the wheat growers in Washington State were suffering a loss of about 10 per cent of their crop, due to stinking smut or bunt, the farmers in that section were very much interested in a method of control introduced by extension workers in 1920.

Up to this time the farmers had been treating their seed wheat with formaldehyde and bluestone solutions, but they found that it caused considerable damage to the seed. In 1920 a new fungicide, known as copper carbonate, was introduced in Franklin County by the county agent, J. C. Scott, and George L. Zundel, extension pathologist. They found 10 different farmers who were willing to demonstrate the new treatment of seed wheat in 1921 on 1 acre. When harvested it was discovered that the wheat from these acres was less smutty, the stand much better, and produced a larger yield than the rest of the acreage.

During the four-year campaign on this disease which followed, various procedures for arousing the interest of the farmer were used. Photographs showing the contrast in germination of wheat treated with copper carbonate and for-

maldehyde were displayed in county banks. Booths telling the story of the dry treatment at the county fairs proved to be very effective. Method demonstrations in applying the dust were conducted with a treating machine provided by the county agent in a number of places in the wheat area. During the harvest season in 1923 smut counts on 15 farms were made to check up the relative per cent of smut where the wet and dry treatments were used. The average of all trials amounted to 1 per cent smut where copper carbonate was used and 2.6 per cent in the formaldehyde treatment. Schools, bulletins, and newspapers also played a big part in helping put across this work.

After some experimentation a rotary type of machine was perfected by the Washington Experiment Station that could be built by any farmer, so that the powder could be applied quickly to a large amount of wheat. Any farmer desiring information regarding the dimensions and plan of one of these machines could secure the same through the State college.

Over 48,000 bushels of wheat were treated with copper carbonate in Franklin County in 1922. One man reported that after he had harvested and threshed his wheat he found that on 600 acres of wheat where he had used the dry treatment that he had 3,000 bushels of wheat more than on a similar area where he had used formaldehyde. The next year 77,000 acres were treated, with an increased yield of 146,000 bushels. Copper carbonate saved 12,000 bushels of seed in 1924.

Four years' field experience with copper carbonate has demonstrated so many advantages over bluestone and formaldehyde that it is now accepted as the general practice throughout the county. From the 10 acres in Franklin County in 1921 the Washington State area planted with copper carbonate treated seed wheat has grown to about 1,800,000 acres in 1924-25.

Dr. A. T. Kirsanov, director of the Agricultural Institute in Minsk, White Russia, will visit the United States in the near future for the purpose of study and travel. While in this country he plans to visit the department in order to learn something of its work. Doctor Kirsanov lectures on general agriculture, but is known chiefly by his philosophical papers relating to agriculture and its history. The Minsk Agricultural Institute is the chief institution in Russia for the study of moor science, having 600 students in general agriculture and forestry.

BRIEF REVIEWS OF NEW BULLETINS

Experiments in Rice Production in Southwestern Louisiana. By Charles E. Chambliss, associate agronomist in charge of rice investigations, office of cereal investigations, Bureau of Plant Industry, and J. Mitchell Jenkins, superintendent Rice Experiment Station, Crowley, La., and assistant agronomist, office of cereal investigations, Bureau of Plant Industry. Pp. 32, figs. 9. October, 1925. (Department Bulletin 1356.)

The largest single area devoted to rice growing in the United States is located in southwestern Louisiana, according to this bulletin. The district is an ideal one for rice production, combining, as it does, suitable soils underlain by an impervious subsoil with a favorable topography, precipitation, and temperature. The average acreage for this area from 1911 to 1923, inclusive, was slightly over 400,000 acres, or 43.8 per cent of the total rice acreage in the United States for the same period.

Sugar-Cane Sirup Manufacture. By H. S. Paine and C. F. Walton, Jr., Bureau of Chemistry. Pp. 75, figs. 18. October, 1925. (Department Bulletin 1370.) Price, 10 cents.

All phases of the production of sugar-cane sirup from the growing of the cane to the marketing of the sirup are discussed in this bulletin. Descriptions of model plants and equipment are given, accompanied by drawings and a complete discussion of the cost of making sirup by different methods. The factors which determine the most economical size of a new sirup plant are set forth in detail. The prevention of sugaring by the use of invertase is fully described. Data on the composition, food value, keeping quality, production of uniform grades, and the canning of sirup are given.

Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1925. Compiled by Talbott Denmead, acting chief, United States game warden, and Frank L. Earnshaw, assistant, interstate commerce in game, division of migratory-bird treaty and Lacey acts, Bureau of Biological Survey. Pp. 12. October, 1925. (Department Circular 360.) Price, 5 cents.

This circular has been issued for the convenience of game authorities, bird-protection organizations, and others in procuring information concerning game and game laws. The organization and personnel of governmental establishments in this country, Canada, and Mexico concerned with game matters are given, together with the names and addresses of officials of State-wide game and bird protective associations and societies, and of the principal national organizations interested in bird protection, including the advisory board, migratory-bird treaty act.

The Color Grading of Honey. By E. L. Sechrist, associate apiculturist bee culture investigations, Bureau of Entomology. Pp. 8, fig. 1. October, 1925. (Department Circular 364.) Price, 5 cents.

Extensive experimenting by the bee culture laboratory of the department has resulted in the perfection of a color grader for honey which overcomes many of the difficulties noted in other graders. It is approved and used by the Bureau of Agricultural Economics. By its means five standard color grades commonly used in the sale of honeys may be determined. They are: Water white, white, light amber, amber, and dark. Two additional grades needed by western beekeepers

have been established and are provided for by this grader; these are designated as extra white and extra light amber. The construction and use of the grader is described in this publication.

Selling Black-Walnut Timber. By Warren D. Brush, scientific assistant, Forest Service. Pp. 21, figs. 8. August, 1925. (Farmers' Bulletin 1459.) Price, 5 cents.

Farmers who have black-walnut trees growing on their farms will be interested in this bulletin, which tells how the market value of the timber may be determined, and discusses in detail how to find the best market. Proper methods of cutting logs, stumps, and crotches are described and illustrated, and costs of felling and hauling are given. Last year farmers sold walnut logs worth more than \$2,000,000.

Extension Work Among Negroes Conducted by Negro Agents, 1923. By J. A. Evans, assistant chief, Office of Cooperative Extension Work. Pp. 24, figs. 7. September, 1925. (Department Circular 355.) Price, 5 cents.

This circular deals with the progress of extension work with negroes; community organizations; sources of funds for the employment of agents; the northward migration of the negro; work with soils, cereals, legumes, forage crops, horticulture, livestock, rural engineering, agricultural economics, home demonstration projects, junior clubs, movable schools, conferences, and fairs. Extension work has endeavored to influence negro farmers and their families to adopt better farm practices, to increase their earning capacity, and to improve their living conditions; and also to interest negro boys and girls in farm activities and to train them in the use of improved methods in farming and home making.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 53, No. 4. September, 1925. Pp. 301-400. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experimental stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review. Volume 53, No. 7. July, 1925. Pp. 285-335, 11. Special articles: On the question of day-to-day fluctuations in the derived values of the solar constant. By C. F. Marvin.—Smithsonian solar-constant values. By H. H. Kimball.—The probable 24-hour temperature change at Montgomery, Ala. By Jesse W. Smith and W. R. Stevens.—Two waterspouts in Mobile Bay, June, 1925. By A. Ashenberger.—Cirro-cumuli and thunderstorms. By R. M. Dole.—Are present methods of rainfall insurance sound? By C. H. Eshleman.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courses, to libraries of and workers in agricultural colleges and experiment stations, to universities, and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

EXPERIMENT STATION PUBLICATIONS

The office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 26-31, 1925. Copies of these publications may be obtained from the stations issuing them.

Control measures for blister beetles. W. J. Baerg. (Arkansas Sta. Bul. 201, pp. 8, figs. 4. Oct., 1925.)

A survey of beekeeping in California. G. H. Vansell. The honeybee as a pollinizer. E. R. DeOng. (California Sta. Circ. 297, pp. 22, fig. 1. Oct., 1925.)

University of Florida Agricultural Experiment Station report for the fiscal year ending June 30, 1919. P. H. Rolfs et al., pp. 65R+III.

Commercial fertilizers. O. S. Roberts, O. W. Ford, L. E. Horat, and M. H. Thornton. (Indiana Sta. Bul. 292, pp. 60, fig. 1. May, 1925.)

Effect of forest fires on land clearing and crop production. M. J. Thompson. (Minnesota Sta. Bul. 220, pp. 23, figs. 12. May, 1925.)

Tankage and buttermilk as protein supplements for growing pigs. E. F. Ferrin and M. A. McCarty. (Minnesota Sta. Bul. 221, pp. 10, figs. 2. Aug., 1925.)

Blanching celery. R. B. Harvey. (Minnesota Sta. Bul. 222, pp. 20, figs. 11. Aug., 1925.)

Shucking oysters: One of New Jersey's growing industries. W. H. Dumont. (New Jersey Sta. Bul. 418, pp. 24, figs. 13. July, 1925.)

Blooming period and yield of apples—a 15-year average. C. W. Ellenwood. (Ohio Sta. Bul. 385, pp. 67-82, figs. 2. July, 1925.)

Thirty-sixth annual report (Texas Agricultural Experiment Station), 1923. B. Youngblood. Pp. 31.

Experiments on the control of wildfire of tobacco. J. Johnson and H. F. Murwin. (Wisconsin Sta. Research Bul. 62, pp. 35, fig. 7. Aug., 1925.)

Transmission of viruses from apparently healthy potatoes. J. Johnson. (Wisconsin Sta. Research Bul. 63, pp. 12, pls. 8. Sept., 1925.)

Pea-disease survey in Wisconsin. F. R. Jones and M. B. Linford. (Wisconsin Sta. Research Bul. 64, pp. 31, figs. 8. July, 1925.)

It is estimated that more than 3,000 tons of hay will be available to feed the elk on their winter refuge in the Jackson Hole region, south of the Yellowstone National Park, in Wyoming, during the coming winter. This is a larger supply than usual, but since the herds have more than doubled in the past three years, all of it may be needed if the winter should be severe. The official count made by the Forest Service and the Biological Survey, together with estimates of small outlying bands, last spring was more than 20,000 head, and it is believed that with the new calf crop the number of elk in the southern herd, which ranges in summer from the southern part of the Yellowstone National Park southward mainly on the Teton National Forest, is now between 24,000 and 26,000 head.

Even in Hawaii a great deal of interest is being shown in the egg standardization work of the department, as indicated by a letter from Director D. L. Crawford, of the extension service. Mr. Crawford has requested charts and other display material, stating, "We are endeavoring to have the United States grades adopted in the local trade in these islands and wish to have available material for pushing this work."

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURAL HISTORY

Zographos, D. L. History of Greek agriculture. Athenai, Typois "Akropoleis," 1921-25. In Greek.

DOMESTIC ANIMALS

Blass, P. C. Great danes, dobermanns, and schnauzers (wire-haired pinschers). New York, Field and fancy pub. corp., 1925.

Doutressoulle, Georges. L'élevage au Niger. Mortain, Impr. G. Letellier, 1924.

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Kempki, K. E. Die rubberkultur. Berlin, P. Parey, 1924.

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Duysen, Franz. Unkräuter. Berlin, W. de Gruyter, 1925.

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Franzen, Hans. Margarine. Leipzig, O. Spamer, 1925.

Heine, Paul. Kompedium der milchunter-suchung für tierärzte. Hannover, M. & H. Schaper, 1925.

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Institut international du froid. Executive committee and general conference. Proceedings of the meetings. 4th session, June 19, 1924. Paris, 1924.

COOKERY

Keystone pecan company. Manheim, Pa. Research laboratory. 800 proved pecan recipes. Manheim, Pa., 1925.

Rogerson, J. B. A cake manual. 2d ed. Boston, M. Barrows, 1925.

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Wolf, Abraham. Essentials of scientific method. London, G. Allen & Unwin, 1925.

CHEMISTRY AND ELECTRICITY

Allen, H. S. Photo-electricity; the liberation of electrons by light. 2d ed. London, Longmans, Green, 1925.

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Principles and applications of electrochemistry. v. 1. New York, Wiley, 1924.

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HEREDITY

Correns, C. F. J. E. Gesammelte abhandlungen zur vererbungs-wissenschaft aus periodischen schriften 1899-1924. Berlin, J. Springer, 1924.

BACTERIOLOGY

Enderlein, Günther. Bakterien - cyclogenie. Berlin, W. de Gruyter, 1925.

MEDICINE AND PHYSIOLOGY

Far Eastern association of tropical medicine. Transactions of the 4th-5th biennial congress, 1921, 1923. London, 1922-24.

Marshall, F. H. A. An introduction to sexual physiology for biological, medical, and agricultural students. London, Longmans, Green, 1925.

BOTANY

Jackson, A. B. Catalogue of hardy trees and shrubs growing in the grounds of Syn House, Brentford. London, Printed by West, Newman & co., 1910.

Küster, Ernst. Pathologische pflanzenanatomie. 8. auf. Jena, G. Fischer, 1925.

McDougall, W. B. Mushroomrooms. Boston, Houghton, Mifflin, 1925.

Rayment, Tarlton. Profitable honey plants of Australasia. Melbourne, Whitcombe & Tombs, 1925.

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Chaddock, R. E. Principles and methods of statistics. Boston, Houghton, Mifflin, 1925.

Cooperation in the United States. Toledo, Ohio, Grain dealers national association, 1925.

Cundall, L. B., and Landman, T. Wales; an economic geography. London, G. Routledge, 1925.

Douglas, P. H. Wages and the family. Chicago, University of Chicago press, 1925.

Estabrook, L. M. Proposed world agricultural census of 1930-31. Roma, Provveditorato generale dello stato Ibreria, 1925.

Fisher, R. A. Statistical methods for research workers. Edinburgh, Oliver and Boyd, 1925.

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Hornor, J. T. Agricultural marketing. New York, Wiley, 1925.

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International labor office. Geneva. Les méthodes des statistiques du chômage. Genève, 1925.

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Lloyd, E. A. The co-operative movement in Italy, with special reference to agriculture, labour, and production. London, Fabian society, 1925.

McMahon, T. S. Social and economic standards of living. Boston, D. C. Heath, 1925.

Mills, F. C. A manual of problems and tables in statistics. New York, H. Holt, 1925.

Peck, H. W. Taxation and welfare. New York, Macmillan, 1925.

Serist, Horace. An introduction to statistical methods. Rev. ed. New York, Macmillan, 1925.

Terpenning, W. A. Social organizations working with rural people. Kalamazoo, Mich., Extension department, Western state normal school, 1925.

Vogt, F. L. Introduction to rural economics. New York, Appleton, 1925.

Wall, N. J. Livestock financing in the northwest. [n. p.] 1925. Thesis—Univ. of Minn. Typewritten.

LOST BOOKS

The following books belonging to the library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library.

Brown, W. H. Textbook of general botany. 1925.

London. Chemical society. Journal. v. 95, pt. 2; 1909. cop. 2.

Tokyo. Imperial university. College of agriculture. Journal. v. 5; 1912-1916.

CIVIL SERVICE ANNOUNCEMENT

Assistant entomologist (physiological research), \$2,400. A vacancy in the Bureau of Entomology for duty at Riverton, N. J., and vacancies in position requiring similar qualifications throughout the United States will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close December 8.

Articles in Current Publications by Department Workers

Ainslie, C. N. (Entomology). Notes on the habits and life history of *Calligrapha pinera* Stal (Coleoptera). The Canadian Entomologist, vol. 57, no. 9, pp. 209-211. September, 1925.

Birdseye, Miriam (Office of Cooperative Extension Work). What standards for optimal health? The Public Health Nurse, vol. 17, no. 10, pp. 527-529. October, 1925.

Chew, Arthur P. (Press Service). Our embattled farmers. Atlantic Monthly, vol. 136, no. 3, pp. 703-711. November, 1925.

Congress and a co-op law. Farm Journal, vol. 49, no. 11, pp. 9, 69. November, 1925.

Everden, J. C. (Entomology). The mountain pine beetle. The Timberman, vol. 26, no. 11, p. 62. September, 1925.

Gapen, C. E. (Press Service). Farm economics gets a new chief. Better Crops, vol. 5, no. 2, p. 22. October, 1925.

Howard, L. O. (Entomology). Mosquito work during the year 1924. Proceedings of the 12th Annual Meeting of the New Jersey Mosquito Extirpation Association. February 5-7, 1925.

Jones, J. W. (Plant Industry). Branching of rice plants. Journal American Society of Agronomy, vol. 17, pp. 619-623. October, 1925.

MacDonald, Thomas H. (Public Roads). Highway research in Ohio. Highway Topics, vol. 3, pp. 7-14, 25. September, 1925.

Mohler, J. R. (Animal Industry). Tuberculin testing and Pasteurization. Cornell vet., vol. 15, no. 3, pp. 260-264. July, 1925.

Monteth, John, Jr. (Plant Industry). Control of turf diseases with chemicals. Bulletin Green Section U. S. Golf Association, vol. 5, pp. 219-223. October 15, 1925.

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Ricker, P. L. (Plant Industry). Native trees, shrubs, and flowers for golf courses. Pt. I. Bulletin Green Section U. S. Golf Association, vol. 5, pp. 225-230. October 15, 1925.

Rose, A. C. (Public Roads). Present status of subgrade studies. Public Works, vol. 36, pp. 353-5. October, 1925.

Snyder, T. E. (Entomology). New termites from the Solomon Islands and Santa Cruz Archipelago. Journal of the Washington Academy of Sciences, vol. 15, no. 17, pp. 393-397. October 19, 1925.

Weir, J. R. (Plant Industry). The genus *Coleosporium* in the northwestern United States. Mycologia, vol. 17, pp. 225-239. November-December, 1925.

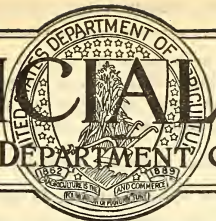
RELEASE FILMS ON CHEESE-MAKING

That much "Swiss" cheese is now "made in America," and that Roquefort cheese, formerly made only from the milk of sheep in the dank, natural caverns of the south of France, is now made from cow's milk in sanitary, up-to-date American dairy establishments, is revealed by two of the educational film productions of the United States Department of Agriculture, "Swiss Cheese—Made in America" and "American Roquefort Cheese—Made from Cow's Milk."

Word has just been received announcing the formation of a U. S. D. A. Club in Seattle, Wash., on October 8. M. B. Summers, meteorologist in charge of the Weather Bureau station at Seattle, was elected president. A. G. Webb, of the Federal Horticultural Board was elected secretary-treasurer. Noon luncheon meetings will be held on the second Thursday of each month.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., NOVEMBER 18, 1925

No. 46

WORK UNDER PURNELL ACT SHOWS RESULTS

Report on Four Months' Administration Indicates Many New Lines of Investigation

Nearly 500 projects have been submitted or suggested under the Purnell Act, according to the Office of Experiment Stations, which is charged with its administration. Of these, 397 have been agreed upon, although a few of them are tentative. A considerable number are in process of review and amendment and will doubtless be approved later.

The Purnell Act, for "the more complete endowment of agricultural experiment stations," went into effect July 1 of this year. It provides for "paying the necessary expenses of conducting investigations or making experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products, and including such scientific researches as have for their purpose the establishment and maintenance of a permanent and efficient agricultural industry, and such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life, and for printing and disseminating the results of said researches."

Act Provides for Annual Increments

The act appropriates \$20,000 for the present fiscal year, with annual increments of \$10,000 until the total is \$60,000 per year, making the total Federal contribution to the stations (including the Hatch and Adams funds) \$90,000 annually.

The act was a notable expression of appreciation of the past work of the stations and recognition of the need of expanding this work. It furnished an opportune means of building upon the past achievements of the stations and of enlarging their activities in the newer

and somewhat untried fields of agricultural economics, rural sociology, and home economics.

It is, of course, too early to measure or even to forecast in any accurate way the influence of this act in stimulating and broadening the work of the experiment station. It is possible, however, from a study of the projects submitted up to the present time under the terms of the new act to present some facts of interest, indicating the nature of the response of the stations to this new and additional means of enlarging and strengthening their programs of investigations.

The decision of the Secretary that the Purnell Act would be administered, through the Office of Experiment Stations, on the basis of approved projects, as in the case of the Adams Act, has resulted in much activity in the formulation of such projects, and this has now advanced to a stage which furnishes a good index of the character of the work it is definitely proposed to do with the new fund.

Approximately three-fourths of the stations have completed their project programs. Nine others have partly completed them, and three have submitted only general plans, but no definite projects.

Three-Fourths of Fund Assigned

Approximately \$700,000, about three-fourths of the fund available for the year, has been assigned to the accepted projects.

The number of accepted projects varies from about 5 to 15 per station and averages about 10. Where the number of projects is large, their support from the Purnell fund is supplemented by funds from other sources.

Roughly classifying the projects approved up to this time, it is found that there are 181 dealing with problems of production, as follows: Soils and fertilizers 13, plant breeding and improvement 11, field crops and their culture 17, pastures and ranges 7, horticulture 19, plant diseases 18, insect pests 18, animal nutrition and production 49, dairy-

FUTURE OF FARMING TALK BY SECRETARY

Summarizes Present Situation and Discusses Waterways and Cooperation

"Now that agriculture is on the upward grade, we must not rest on our oars," said Secretary Jardine, addressing the American Farm Congress at Kansas City to-day. "We must look forward to see what possibilities the future holds for us," the Secretary continued, "and how we can best realize those possibilities. We need to discern the signs which point not only to improvement in our agricultural situation in the immediate future, but to the building of a permanently sound agriculture and rural life. Particularly is this important here in this great region, the greatest agricultural region in the world. Here, to a large extent, will be determined agricultural policies and agricultural success.

Present Outlook Determines Future Trends

"The first thing to be considered in looking to a future program is the condition in which farming now is, and I want to summarize the farm situation as I have analyzed it on the basis of reports that have come to me from all parts of the country, and to point out what seem to me some very pertinent deductions as to future trends.

"All of you, I know, are interested in wheat. Nearly all of you raise it, and the few who do not, know the place that it occupies in our farming system. Many of the wheat farmers of the United States this year are in an unusual position. Except durum and some white wheats on the Pacific coast practically all of our wheats are selling at prices above an export market level. Across the border in Canada is a large volume of wheat for export. Were it not for the tariff that wheat would be coming into the United States and our markets would be on a level with the Canadian market, which is in a position of selling

(Continued on page 8)

wheat for what Liverpool will pay for it, minus the cost of putting it in Liverpool. Furthermore, many farmers have markets at their doors that are paying better prices for wheat than some of the big central markets. Omaha, Kansas City, and St. Louis prices are higher than Chicago prices. An outstanding factor in this situation is the local mill demand. Kansas, for example, this year did not produce as much wheat as the mills of the State can grind. There is no more hard or soft winter wheat in the country than can be used in the country at a good price. * * *

"Foreign competition in wheat is increasing. Russian agriculture is coming back. The wheat area of Australia, Argentine, and Canada is now more than 50 per cent above the pre-war average. The past agriculture warns against over-expansion of any crop. We can build a sound future agriculture not on over-expansion, but on balanced production that takes into consideration the probable effective demand in all agricultural products.

Livestock Prospects Favorable

"Livestock producers in the United States as a whole are this fall in the best situation in the last four years. Prospects for the next 12 months are more favorable than those faced at the beginning of any winter since 1918.

"This improvement in situation is due both to advances in prices and to excellent physical conditions in the areas of large production. All species of livestock are higher in price at the beginning of November than they were last year or at the same date since 1920. Prices for all species for the last 10 months have been higher than for the same period since 1920.

"The production of feed grains this year has been large and there is an ample supply at reasonable prices for both fattening and wintering livestock. Pasture and range conditions in the West are generally very favorable, with supplies of hay and range feed in sight for normal requirements. Rains have relieved the very serious situation that existed over considerable areas in the Southwest and have produced supplies of feed needed for the coming winter.

"From the standpoint of supplies, the country is going into the winter with numbers probably somewhat smaller than a year ago—fewer cattle and calves, fewer hogs, but more sheep. With neither cattle nor hogs, however, is the reduction in numbers sufficient to cause any concern as to ample supplies of meat for consumption. It seems probable that the consumer may have to pay somewhat more this winter than the comparatively low prices to which he

has been accustomed for several winters, but not more than enough to put livestock and meat prices on an equality with general commodity levels.

Range Cattle Not Decreasing

"It is of special interest to note that, despite the breaking up of the big ranches and operating units in the range country as a result of the entrance of homesteaders and dry-land farmers, the number of cattle in that section has not been materially decreased. Sheep, on the other hand, have been reduced in numbers in that region, though not in the country as a whole. This would indicate that the dry farmer finds that cattle serve as a means of converting his crops into cash, and therefore must be included in his production program. Sheep, however, requiring large areas for grazing, are not so suitable for small-farm operations in the western dry-land country.

"With the livestock industry fairly well balanced again we may well devote attention to what we may do as farmers and stockmen to improving our individual operations so as to make our business more profitable. It is my conviction from my own experience with livestock, from what other farmers have told me, and from actual figures that have been secured through investigations, that substantial additional profits may be made in livestock through improvement in breeding, feeding, and care of the animals. * * *

"The production of quality commodities as economically as possible is one of the foundation stones of good modern business. It may be applied to agriculture just as definitely as to any other field. Not only do quality products bring a higher price but the proportion of the price that has to be expended in freight charges is much lower. It costs no more to ship a baby beef of a given weight than it does a scrub steer of the same weight." You can ship wheat that has the protein content bringing the best price for the same figure that you can ship low-grade wheat.

Waterway Development Essential

"This brings me to a further matter that I believe we, as farmers, want to consider in building up our picture of the future. That is the matter of transportation. I was glad to read of the progressive position taken by Secretary Hoover in an address in this city with reference to the need of inland waterways for agriculture and industry. With the development of such waterways I am in heartiest sympathy, and I pledge you my interest and cooperation to that end. Many of your competitors

in other regions have a distinct advantage by reason of being near good waterways. The development of waterways is essential to your progress. Even if railway freight rates were materially reduced you still would be unable to compete with farmers who have adequate water transportation. We must have railways, and they must receive returns adequate to enable them to render satisfactory service. The farmers who use them for extremely long hauls, as do farmers in this region, are, however, in a bad competitive position with respect to those farmers who live within a few miles of waterways and can transport their products to those waterways at a minimum cost. Once water is reached, the transportation inevitably costs less than by land. * * *

"I look forward with confidence to the inauguration of plans such as these in the near future. They will be brought about through cooperation among farmers and cooperation between farmers and business men in the cities and towns, and I believe that the prospect for such cooperation is now better than it ever was before. There is a clearer understanding of the problems involved in agriculture and in industry and the relations between these, and, more important still, there is a growing desire for still deeper understanding and for closer fellowship. We are all recognizing more and more that we can not live to ourselves; that in a complex civilization such as ours we must cooperate with each other for the common good."

Fifty post-graduate students from the University of Cologne, Germany, recently called on Secretary Jardine and were then shown through the department. The group, under the direction of Dr. Erwin Geldmacher, dean of the department of economics of the University of Cologne, has been making an extended tour of the United States, studying social and economic conditions. In the evening the students were informally entertained at Georgetown University, where several motion-picture films of the department were shown and a number of department publications for which the group had evidenced special interest were distributed. Their guide reported that they appeared particularly interested in the work relating to the marketing of cotton, dairy and poultry products, and livestock and meats.

Nelson A. Crawford, director of information, and W. A. Wheeler, Bureau of Agricultural Economics, represented the department at the Fourth National Radio Conference held in Washington last week.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

CONFERENCE WILL NOT MEET AGAIN

President Coolidge has approved the recommendation of Hon. Robert D. Carey, of Wyoming, chairman of the President's Agricultural Conference, to the effect that the conference should not be called back into session, according to a statement issued last week at the department. This decision was definitely reached upon announcement that cooperative leaders in conference with Secretary Jardine had unanimously agreed upon a definite plan to give assistance and encouragement to the cooperative movement in its many aspects.

FOREST RESOURCES NET \$5,000,000

Receipts from national forest resources during the fiscal year ending June 30, 1925, totaled \$5,000,137, according to the final tabulation made by the department. This amount is \$251,766 less than the receipts for the previous fiscal year, but is \$409,204 larger than the average annual receipts of the preceding five years.

FEDERAL LAWS PROTECT WOOD DUCKS

Press notices from Florida that the ban on killing wood ducks had been lifted are incorrect, says the Biological Survey. Persons killing these beautiful birds will find themselves liable to a fine of \$500 or imprisonment for six months, or to both fine and imprisonment, says the bureau. Under a treaty with Great Britain for the protection of migratory birds wood ducks are given special protection, and the Federal regulations do not provide an open season anywhere in the United States during which they may be hunted and killed.

FLORIDA'S FOREST TREES DESCRIBED

A pocket-size booklet which lists and describes the common forest trees of Florida has just been published by the Florida Forestry Association in cooperation with the Forest Service of the department. According to the new booklet Florida contains 93 separate species of native trees, as well as many tropical and semitropical ones introduced into the State. In addition, the State has many species of trees found in more northern localities. In the lower part of the Florida Peninsula are found about 100 species of trees which do not grow

in any other part of the United States. Through the generosity of the Florida Forestry Association a limited supply of these tree guides will be mailed free upon application to the Forest Service, United States Department of Agriculture, Washington, D. C.

WILL NOT LIFT POTATO WART EMBARGO

The department announces that there is no basis whatsoever for the rather persistent rumors that it intends to remove or modify the restrictions on the entry of potatoes from countries invaded by the potato wart disease. The department has no such intention. The potato wart is widespread in Europe and has always been recognized as one of the most dangerous of potato diseases.

THE MONTHLY WEATHER REVIEW

From a modest beginning many years ago the Monthly Weather Review, published by the Weather Bureau of the department, has grown to be one of the leading meteorological journals of the world, as well as an indispensable digest of current weather statistics for the United States. The first number of this publication was a two-page octavo leaflet and was prepared by the late Prof. Cleveland Abbe in January, 1873. Since that time it has become a quarto in size, averaging about 600 pages and 150 charts annually.

The first issue was devoted exclusively to a description of the storms of the month and the warnings issued in connection therewith. While the original purpose of the publication has been preserved throughout the 53 years of its existence, many new features have been added. It now presents the statistical record of the various weather elements, temperature, rainfall, cloudiness, etc., with a brief discussion illustrated by a number of charts. It is the only publication in the United States that contains material and illustrations suitable for regional and general climatic studies, and is the most authoritative source of information concerning the occurrence of abnormal weather conditions in the various parts of the country. It also contains articles and notes dealing with all branches of meteorology and its various practical applications.

This publication serves as a medium of exchange with foreign weather services, from which the Weather Bureau receives like courtesies, and it is also a medium by which Weather Bureau employees may be kept advised of the results of special investigations in meteorology and in which they may publish the results of their own studies.

Federal Business Association Organized in Porto Rico

Twenty officials in charge of various Federal activities in Porto Rico met in the office of the United States Food and Drug Inspection Station at San Juan on October 21 for the purpose of organizing a Federal business association.

W. G. McGee, Bureau of Chemistry, called the meeting to order and introduced H. C. Henricksen, of the Insular Experiment Station, upon whose invitation the meeting was held. Mr. Henricksen presented an outline for the organization of a Federal business association in Porto Rico based upon the plan of the New York association. The outline described in detail the objects and names of the organizations which have been established elsewhere. It was the result of a conference which Mr. Henricksen had with the area coordinator of the Porto Rico district at New York while on a recent visit to the States.

After Mr. Henricksen's paper the meeting proceeded to organize. Mr. Henricksen was unanimously elected president to serve for the remainder of the year. Col. John Gay, district attorney, was elected vice president, and Capt. F. C. Simpson, United States Army, was elected secretary-treasurer, both to serve for the remainder of the year.

It was voted that the president appoint a committee of four to act with the three officers elected as an executive committee. In addition it was voted that this committee meet once a month at the call of the president, and that this be made a part of the by-laws of the association. It was also voted that any member of the association having any suggestions to make present them in writing through the secretary and that they be mimeographed and distributed to the other members.

PORTUSDA CLUB

The Portland, Oreg., U. S. D. A. Club moved forward its November meeting into October in order to take advantage of the presence in Portland of Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, and W. A. Sherman, specialist in fruits and vegetables of that bureau. The meeting was held at the Hazlewood Restaurant and a large number were present, including Dr. Raphael Zon, director of the Lake States Forest Experiment Station at St. Paul, Minn., and several members of the agricultural committee of the Portland Chamber of Commerce.

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UNITED STATES DEPARTMENT OF AGRICULTURE

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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary

Amendment to the Administrative Regulations

INSURANCE OF PARCEL POST

Memorandum No. 545—November 6, 1925.—Paragraph 680 of the administrative regulations of the department, viz.:

680. *Insured mail.*—Parcel-post mail should not be insured, since indemnification will not be made in the event of loss of official mail, and insurance secures no greater care in handling than is given ordinary mail.

is hereby canceled.

The above paragraph is in conflict with a later regulation 79(d) of the fiscal regulations, which permits parcel-post insurance "on the more valuable articles." The change followed 3 Comp. Gen. Dec. 391, ruling that the department may collect the insurance in case of loss, and pointing out that insured mail is more carefully handled.

There will be no reprint of page 547 of the regulations, on which the canceled paragraph appears, until amendment is made of some other regulation carried on this or the succeeding page. In the meantime pen-and-ink notation "Canceled—Memorandum 545 of November 6, 1925," should be made against the paragraph in all copies of the regulations.

Leave of Absence

Memorandum No. 546—November 10, 1925.—Paragraphs 481, 513, 522, and 524 of the administrative regulations of the department are hereby amended to read as follows:

481. *Interpretation of regulations.*—All questions pertaining to leaves of absence shall be submitted to the director of personnel and business administration for decision.

513. *Sick-leave certificates.*—Applications for sick leave exceeding two days must be accompanied by a certificate (provided on the form) of the attending physician, where one was employed, and in all cases where no physician was employed the specific reason for not employing one must be stated. (See par. 514.) As a rule certificates of sickness will be accepted from none but regularly practicing physicians, licensed according to law. In unusual cases, however, certificates of other practitioners may be submitted. The sufficiency of any certificate shall be determined by the director of personnel and business administration.

In approving or disapproving an application for sick leave the chief of bureau or administrative officer acting for him may take into consideration any evidence besides the

physician's certificate which may be developed in connection with the application.

522. *Leave or furlough without pay.*—Application for leave of absence without pay will be made on the form "Application for leave" prescribed by the department. Chiefs of bureaus, or authorized chiefs of field stations, may approve applications for periods not exceeding 30 days in any calendar year and for further nonconsecutive periods of not more than 6 days, not to exceed 30 additional days in the aggregate. Where leave beyond such bureau authorization is applied for, the chief of bureau will forward to the Secretary, through the director of personnel and business administration, a regular personnel recommendation with respect thereto, stating the reason for the absence applied for, the record of annual, sick, and other leave taken during the calendar year, and such other information as should be considered. The leave application will not accompany such recommendation.

Leave without pay will be granted only when the work of the Government will not suffer thereby, and each application for such leave shall explicitly state the necessity therefor, the length of time the applicant desires such absence to continue, whether the applicant expects to engage in outside work during such leave, and if so, the nature of the work. (See pars. 660 and 662.) Leave without pay should not be taken until the applicant has been advised of its approval. An employee who is permitted to return to duty prior to the expiration of granted leave is not entitled to pay for any day prior to that on which he actually reports for duty.

524. *Deduction from annual leave for absence without pay.*—Proportionate deductions from unused annual leave of employees in the District of Columbia shall be made at the rate of 1 day for each 12 days, or multiples thereof, for furlough or leave without pay. In the case of field employees the deduction shall be made at the rate of 1 day for each 24 days, or multiples thereof, for furlough or leave without pay. Proportionate deductions shall also be made in the case of reinstated employees for the period of their separation from the department during the calendar year.

This deduction will not be made in cases where absence on account of illness has been charged to annual leave because the sick leave authorized by paragraph 510 had previously been exhausted, provided that a physician's certificate is in each instance supplied in connection with the annual leave so taken on account of illness.

An employee who, at the end of the calendar year, has exhausted all sick and annual leave, and is on leave without pay on account of illness, and is physically unable to report for duty, may, without actually reporting for duty in person, be restored to a pay status as of January 1 of the succeeding calendar year and granted sick leave, and also, if necessary, annual leave, because of continued illness. Thereafter all leave regulations shall apply to such employee; and if continuous absence exhausts all sick and annual leave in the new calendar year further furlough will be governed by the procedure in the case of application for leave without pay exceeding 30 days.

No deduction from the pay of any employee shall be made by reason of a proportionate reduction of annual leave on account of furlough or leave without pay. In other words, annual leave granted and taken can not in any circumstances be revoked or curtailed.

Paragraphs 481 and 513 as revised designate the director of personnel and business administration as the officer to interpret matters pertaining to leave of absence. The

amendments to paragraphs 522 and 524 consist of slight variations in phrasing and indicate changed procedure in two ways in the interest of simplification of practice and elimination of duplication. Under existing regulations, in cases of applications for leave without pay in excess of 30 days the procedure is to transmit a formal personnel recommendation to the Secretary, accompanied by a formal leave application to the chief clerk of the department. Upon approval by the chief clerk the papers are sent to the Secretary's office and after final approval a formal notification is issued by the chief personnel officer and the leave application returned to the bureau. Under the amended regulation the procedure will be to forward directly to the office of the director of personnel and business administration only the formal personnel recommendation to the Secretary. Upon approval a regular notification will be issued by the chief personnel officer. No leave application will accompany the recommendation.

Paragraph 522 in its new form also authorizes chiefs of bureaus to grant leave without pay for brief periods in excess of the 30 days already within their discretion.

Prompt Action on Civil Service Certificates.

Memorandum No. 547—November 12, 1925.—Paragraph 412 of the Administrative Regulations is amended to read as follows:

412. *Prompt action on certificates.*—Prompt action should be taken on all civil-service certificates, and selections and recommendations for appointments made without unnecessary delay. Reports on all certificates for non-scientific positions must be received by the director of personnel and business administration not later than 10 days after receipt of the certificate by the bureau concerned.

Much confusion and interference with the orderly operation of personal matters is caused by delay in handling of civil-service certificates. In order to assist in clearing up this situation the above amendment extends the period of the return of civil-service certificates for non-scientific positions from 4 to 10 days, which will be strictly enforced. This extension is authorized with the view of allowing the bureaus sufficient time to dispose of the eligibles certified. A check will be maintained in the office of personnel and business administration on outstanding certificates, and the return will be required within the 10-day limit of all those falling within the above classification.

Certification of eligibles for scientific and technical positions should receive prompt attention in every case and reports made to the director of personnel and business administration as promptly as possible.

ADDITIONAL MAILING LISTS

The mailing lists section, office of information, announces the establishment of the following mailing lists of the department:

LISTS ESTABLISHED

Key No.	Bureau	Title of list
B-F....	Entomology....	Beekeepers, foreign.
382-BD.	Dairying.....	Field employees (official record list).
482.....	Plant Industry.	Horticulturists in State colleges, etc.
482-A.....	do.....	Plant physiologists and biochemists in State colleges, etc.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Colorado.—Effective December 1, R. H. Tucker, county agent in Montrose County, will be transferred to Delta County, restoring extension service to this county after a lapse of several years, and Henry A. Ireland, who has been agriculturist on the Uncompahgre reclamation project, will become county agent in Montrose County. By agreement with the adjoining counties, beginning January 1, 1926, Mr. Ireland will cover the farming districts of Ouray, a mountain county which has had no county agent heretofore, and will give up a corner of Montrose County remote from the county seat to A. A. Goodman, county agent of San Miguel County.

Utah.—A. L. Christiansen, county agent in Tooele County, has been transferred to Weber County, and Lyman H. Rich has been appointed county agent in Wasatch County.

Vermont.—Francis R. Churchill, county agent in Addison County, has been succeeded by Roger W. Blakely, and in Washington County Thomas H. Blow has succeeded E. H. Kelley. Helen M. Findlen has been appointed home demonstration agent in Windsor County to succeed Mrs. Lois A. Soule.

COURT DECISION

A case originating in the district court at Ogden, Utah, to prevent the county commissioners from appropriating money for extension work was recently decided against the plaintiff by the State supreme court.

NEW DEVELOPMENTS

The woman's home demonstration club of Beulah community, Carroll County, Ga., has built a substantial and attractive clubhouse this year, which cost them only \$28.85 in actual money. All of the labor and material, except the flooring and brick for the chimney, was donated.

It is built of logs cut and donated by the men in the community. Gables, inside and out, are of birch poles, and these are also used inside the cabin underneath the rafters. On the front gable is the date of erection, cut from smaller pieces of birch. The cracks between the logs are daubed with gray mud. Inside around the walls are punchen benches, cushioned in harmonizing color. Permission was given to build the log house on the community school grounds, where it forms a picturesque part of the woodland surroundings.

The most-needed furnishings are already installed—a stove, utensils for demonstrations, and a table. Here the woman's club holds monthly meetings, one month having a demonstration program and the next a recreational meeting, which the entire family attends. Girls' club work is carried on in it, too, and a library and reading room is to be fitted later.

KANSAS CITY U. S. D. A. CLUB

The regular monthly meeting of the Kansas City U. S. D. A. Club was held in the Kansas City (Kans.) Chamber of Commerce Building on Friday, October 16. Thirteen members attended. Dr. F. A. Imler, vice president, presided.

The program of radio talks which are being broadcast weekly from the Sweeney Automotive and Electrical School, station WHB, under the auspices of the club, was presented to the club for its information. The program started November 4. Beginning November 25, it will be as follows:

4. November 25, 1925. United States hay standards. By G. F. Kellogg, district supervisor.

5. December 2, 1925. The livestock, meats, and wool market news service of the United States Department of Agriculture. By Miss Nan B. Cox, market news radio announcer of the local office.

6. December 9, 1925. The food and drug inspection service of the United States Department of Agriculture. By W. H. Hartigan, inspector in charge of local office.

7. December 16, 1925. The purpose and scope of the packers and stockyards administration of the United States Department of Agriculture. By George E. Butin, district supervisor in charge of local office.

Doctor Parker, of the Bureau of Animal Industry, read an interesting and instructive paper on the meat inspection and stockyards inspection services of the department. After the reading of this paper the meeting was adjourned.

Russell S. Smith, of the Bureau of Dairying, has been transferred to the United States Public Health Service, with headquarters at Montgomery, Ala.

Mr. Smith entered the department in October, 1914, and was assigned to work having to do with the improvement of city milk supplies. He has had a wide and varied experience in conducting sanitary surveys, which included studies on milk production and handling on farms, milk transportation by rail and auto truck, and sanitary efficiency in city milk Pasteurizing plants and at country milk receiving stations. He is the author of several publications dealing with these subjects.

With the United States Public Health Service, Mr. Smith will continue similar work in carrying out the milk sanitation program of that office.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What is a windjammer?

Answer. A "windjammer" is the local name in California fruit-growing districts for a machine devised to raise the temperature of an orchard by the process of mixing the air during critical periods when the fruit is threatened by frost. Since the establishment of its fruit-frost service in 1917 the Weather Bureau has had occasion to make practical tests with a number of these devices, but up to the present time has found no "windjammer" which can be recommended for complete protection from low temperatures. The use of many small orchard heaters is to-day the only practical means of raising the temperature of the air near the ground sufficiently to protect the fruit on the trees.

Question. What makes the skin on milk when it is boiled?

Answer. The skin which is formed on milk when it is heated is a mixture of casein and albumin, the principal proteins of the milk. The skin is probably due to rapid drying of the protein at the surface rather than to coagulation.

Question. Does the pink bollworm infest any plant other than cotton?

Answer. While cotton (*Gossypium* spp.) is by far the most favored food plant, a number of other plants have been recorded as host plants of the pink bollworm. In India it has been taken from *Hibiscus* sp. In Hawaii from milo (*Thespesia populnea*). In Africa it has been recorded from hanbuk (*Abutilon* sp.). In Egypt the food plants in addition to cotton are okra, teal or hemp, and hollyhock. In Mexico the species has been found breeding in several species of *Hibiscus*. While the above records appear to be authentic, there seems to be considerable doubt as to whether the pink bollworm could really reproduce and maintain itself from year to year on food plants other than cotton.

Question. How many applications for patents on inventions by department employees were granted in 1924? How many were disallowed?

Answer. During the fiscal year ending June 30, 1924, the department allowed applications on 31 patents and disallowed 7. During the fiscal year ending June 30, 1925, the department allowed 20 applications and disallowed 14.

DO YOU KNOW?—

Mention of certain phases of the department's work will be included in this column from week to week

USE STRATEGY AGAINST ANIMAL DISEASE

Controlling and eradicating contagious diseases of livestock involve not only scientific methods but a high degree of strategy. The method naturally varies with the particular problem encountered. In suppressing the outbreak of foot-and-mouth disease in California last year inspectors of the Bureau of Animal Industry frequently resorted to a method known as "back-firing." As the name suggests, the principle involved is similar to the familiar practice of back-firing to check a prairie or forest fire.

In some respects the contagion of foot-and-mouth disease is like fire in its habits; it spreads rapidly among susceptible animals, working havoc as it goes, but, of course, the contagion is invisible and can be detected only by the symptoms it causes. But the symptoms do not develop until after several days from the time of infection. To cope with this situation, veterinary inspectors of the Bureau of Animal Industry frequently established a wide zone free from susceptible animals around a known center of infection. Usually this zone was from 1 to 2 miles wide. In principle it corresponded to an artificially burned strip of land for the purpose of stopping the advance of a fire.

Early in the California outbreak the Pinole Valley district, near Berkeley, was a source of danger to surrounding areas, and it was decided to kill the exposed as well as the infected herds. Consequently the exposed cattle were driven down from both slopes of the Pinole Valley to the various trenches where they were slaughtered. This back-fire method denuded the hills of exposed cattle and prevented the possible spread of infection through stray animals that might be affected and lessened danger from the observed "jumping" habit of this particular malady.

Another instance of back-firing occurred following the infection of sheep at Indian Gulch in Mariposa County. The immediate problem was to prevent the infection from spreading back into the adjacent mountains. There was established a dead line between the infected area and the mountain range. This line, which extended for a distance of 75 miles, was maintained by mounted guards. Livestock between this dead line and the infection, being more or less exposed, were driven toward trenches prepared in the infected area where they

were killed and buried. This checked the disease from spreading.

In instances where there was no direct exposure during the outbreak, livestock in condition to go to market were slaughtered under careful inspection, and thus saved for food as well as reducing the animal population in the locality, thereby giving less opportunity for the disease to spread.

In dealing with bovine tuberculosis the Bureau of Animal Industry has mapped the entire United States by counties, showing the approximate extent of the disease in each one. This is virtually a war map and is the basis for the aggressive campaign being waged successfully against the disease. The strategy of dealing with Texas or tick fever involves rigid quarantine in combination with systematic dipping of cattle to prevent ticks from maturing and laying eggs.

Effective warfare against unseen enemies or those of microscopic size necessarily calls for a high degree of generalship as well as scientific research. Department field work is well known to the public, but there is less popular understanding of the strategic methods on which the field work is based.

WITH EXTENSION FORCES

CARE AND REPAIR OF GAS ENGINES

The problem of care and repair of gas engines on Nebraska farms is an important item, the Nebraska Extension Service has found. Nebraska farms five years ago averaged over one motor per farm in the greater part of the State, the census report stated, chiefly tractors, engines used for pumping and general farm power, trucks, and automobiles. That the owners wish to know how to care for and repair these motors is shown by the requests made each year for the gas-engine schools which have been held during winter months by the Nebraska Extension Service for a number of years. During the fall of 1924 farmers in 21 counties asked for this assistance. The schools were located in communities selected by the county agent of each county in which it was found possible to hold them.

With the help of local leaders the agent would make note of 25 or 30 men interested in the project. Registration cards were then sent to these men, and it was required that 15 or more signify their willingness to attend the school. These meetings were usually from one to two days in length and scheduled for a forenoon and an afternoon session each day. The schools were held, as far as possible, only on farms and in a well-lighted, well-heated farm shop or ma-

chine shed. Farmers and farm boys were eligible for this work, and they were requested to bring in crippled gasoline engines, carburetors, and other parts of equipment which were out of order.

When the men arrived with their engines and other equipment they were divided into four or five groups of about five men each, and over each group was placed the man who seemed best qualified as an engine repairman. The county extension agent and the State extension agent then superintended all of the groups repairing the various engines. A lecture lasting three-quarters of an hour was given at morning and afternoon sessions and the rest of the time was devoted to the actual care and repair of the motors. Charts, literature, models of engines, and an assortment of tools were used for lecture materials and shop work.

The first demonstrations of last winter were held in Nance County with an attendance of 70 men. Twenty-one farm engines and five automobiles were used in the laboratory work. One young farmer who had been pumping water by hand for six months because his engine was out of condition brought it to the school, worked it over, learned to time it and make ordinary adjustments; then hitched onto it and pulled it home and put it to work, where it pumped water continuously for 36 hours. He returned to the school and did not miss any part of the regular session.

The county agent secured the name of every man completing the course and turned them over to the State extension agent, who later sent out follow-up cards in order that a report might be had from him relative to the good received at the school and as to whether or not he had passed it on to others. This follow-up system has been conducted during the past year with very gratifying results.

The schools held in January, February, and March, 1925, covered 10 counties and had a total attendance at meetings of 631; registered attendance at regular engine school sessions 356; average attendance per county 35.6; and 105 engines were used for demonstrations. Forty-five per cent of the men made a report on the influence of the school; 100 per cent would attend another school; 75 per cent have used something learned at the school; and 65 per cent have passed on what they learned to 70 other farmers.

The efficiency of all employees in the classified departmental service will be rated annually as of May 15 each year, instead of semiannually as heretofore, according to a recent announcement from the Personnel Classification Board. This will eliminate the November 15 rating. This ruling also applies to the field service.

BRIEF REVIEWS OF NEW BULLETINS

Improved Oat Varieties for the Corn Belt. By L. C. Burnett, chief in cereal breeding, Iowa Agricultural Experiment Station, and agent, office of cereal investigations, Bureau of Plant Industry; T. R. Stanton, agronomist in charge of oat investigations, and C. W. Warburton, formerly agronomist in charge of cereal agronomy investigations, office of cereal investigations, Bureau of Plant Industry. Pp. 31, figs. 15. October, 1925. (Department Bulletin 1343.) Price, 10 cents.

In this bulletin four new high yielding oat varieties, namely, Albion, Richland, Iowar, and Iogren, developed primarily for the Corn Belt, are discussed. The Albion, Richland, and Iowar are pure-line selections from the Kherston variety. The Albion and Iowar have white kernels. These varieties have been well received by the farmers of the Corn Belt. In 1919 it was estimated that nearly a million and a half acres of the Albion were grown in Iowa and adjoining States, while by 1924 approximately this acreage was grown in Iowa alone. Although a very productive variety extension of the Richland has been handicapped by its yellow color. It is especially recommended for growing on rich soils where taller varieties sometimes lodge. The Iowar differs from Albion in having a slightly taller culm and in ripening a few days later. It has been slightly superior in yield to the Albion. It is probable that Iowar will replace Albion to a considerable extent in the Corn Belt. The Iogren is a selection from Green Russian and represents a larger and later type of oats. It has been most promising in northern Iowa.

Blue-fox Farming in Alaska. By Frank G. Ashbrook, in charge, division of fur resources, and Ernest P. Walker, administrative officer for Alaska, Bureau of Biological Survey. Pp. 35, figs. 28. October, 1925. (Department Bulletin 1350.) Price, 10 cents.

The production of blue foxes, a comparatively new industry, is particularly adaptable to Alaska, since it utilizes outlying islands of the Territory that are of little or no value for agriculture. The foxes are allowed to roam over an entire island, where they choose their mates and make their dens, although they are fed by the ranchers. The information given in this bulletin is based on a study of the methods and practices of the industry which have been found to give the greatest success on islands of Alaska, and is of especial value to beginners in blue-fox raising. Ranch organization, breeding, feeding, pelting, and sanitation are clearly treated in detail, and a section also is given to white-fox farming in northern Alaska.

What the National Forests Mean to the Intermountain Region. By Frederick S. Baker, forest examiner, Forest Service. Pp. 21, figs. 9. October, 1925. (Miscellaneous Circular 47.) Price, 5 cents.

This bulletin explains why most of the population of the Intermountain Region of Utah, Idaho, Nevada, and Wyoming is crowded close to the high mountain masses covered by national-forest lands. Though at first glance the fundamental wealth of the region seems concentrated in the few rich irrigated farming lands, the mining communities, and the cities, much of it in reality comes down from the mountains which are the sources of wood for fuel and timber and an abundance of water power. In addition to the wood and water the mountain lands within the national forests supply forage for over 2,800,000 sheep

and 400,000 cattle. Even now the fur trade is of no small importance, and beavers are increasing under protection. Of importance and interest also is the effect of the protection by forest cover of the watersheds in controlling floods.

Farmland Water Supply. By George M. Warren, hydraulic engineer, Bureau of Public Roads. Pp. 38, figs. 35. August, 1925. (Farmers' Bulletin 1448.)

The latest available statistics show that only 1 out of 10 farms has water piped into the house. Surveys indicate that 3 out of 4 farm water supplies are sufficiently polluted as to be unsafe. Cistern water often becomes polluted because of unclean roofs or other collecting area, insanitary cisterns, seepage from near-by sources of filth, and in other ways. This bulletin contains much valuable information concerning wells, cisterns, springs, pumps, hydraulic rams, water tanks, disinfection of drinking water, and the planning and installation of a water system.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 2-7, 1925. Copies of these publications may be obtained from the stations issuing them:

Sheep production in Colorado. C. I. Bray. (Colorado Sta. Bul. 304, pp. 44, figs. 29. Sept., 1925.)
Diseases of Colorado feeding lambs. I. E. Newsom and P. Cross. (Colorado Sta. Bul. 305, pp. 26, figs. 17. Oct., 1925.)
The use of concentrated fertilizers. A. B. Beaumont. (Massachusetts Sta. Circ. 72, pp. 4. Jan., 1925.)
Ventilation for the New Jersey poultry house. E. R. Gross. (New Jersey Stas. Hints to Poultrymen, vol. 13, No. 12, pp. 4, figs. 5. Sept., 1925.)
Common disinfectants and their use. F. R. Beaudette. (New Jersey Stas. Hints to Poultrymen, vol. 14, No. 1, pp. 4. Oct., 1925.)
Blight resistance in pears and characteristics of pear species and stocks. F. C. Reimer. (Oregon Sta. Bul. 214, pp. 99, figs. 35. June, 1925.)
Perennial canker of apple trees. (A preliminary report.) S. M. Zeller and L. Childs. (Oregon Sta. Bul. 217, pp. 18, figs. 22. Aug., 1925.)
Fattening lambs for the late winter market. H. K. Dean and E. L. Potter. (Oregon Sta. Bul. 218, pp. 11, figs. 4. Aug., 1925.)

Articles in Current Publications
by Department Workers

Barnes, W. C. (Forest Service). Along the way from east to west. *Breeders' Gazette*. November 5, 1925.
Bauchman, W. F., and G. S. Jamieson (Chemistry). The chemical composition of the Bitonto type of Italian olive oil. *J. Oil & Fat Industries*, vol. 2, no. 4, pp. 110-111. October, 1925.
Cary, A. (Forest Service). Forest people: Scissors, of Cogdell, demonstrates "Forestry in the making." *American Forests and Forest Life*. November, 1925.
De Bord, G. G. (Chemistry). Effect of dehydration upon the bacterial flora of eggs. *J. Agr. Res.*, vol. 31, no. 2, pp. 155-164. July 15, 1925.
Dill, D. B. (Chemistry). Post-mortem disappearance of glycogen as a possible index to spoilage in clams. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 5, pp. 567-572. August 15, 1925.
Eaton, E. O., and A. G. Murray (Chemistry). Studies in the analytical chemistry of drugs. II. Modified procedure for the assay

of alkaloidal tablets. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 5, pp. 572-574. August 15, 1925.
Granger, C. M. (Forest Service). The business man's part in forest conservation. *The Timberman*. October, 1925.
Green, C. B. (Forest Service). The air seasoning of lumber in the California pine and redwood regions. *The Timberman*. October, 1925.
Hartmann, B. C. (Chemistry). Catawba grape juice. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 6, pp. 716-725. November 15, 1925.
Henderson, B. (Agricultural Economics). J. Russell Smith—North America. (Book Review.) *Jour. of Land & Public Utility Economics*. October, 1925.
Hertwig, R., and L. H. Bailey (Chemistry). The determination of the total solids of bread. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 5, pp. 585-591. August 15, 1925.
Hunter, A. C., and B. A. Linden (Chemistry). Microorganisms in decomposing oysters. *J. Agr. Res.*, vol. 30, no. 10, pp. 971-976. May 15, 1925.
Isaac, L. A. (Forest Service). Proper spacing for Douglas fir forests. *The Timberman*. October, 1925.
Keenan, G. L. (Chemistry). Notes on reduced iron. *J. Am. Pharm. Assoc.*, vol. 14, no. 10, pp. 873-874. October, 1925.
Lathrop, C. P. (Chemistry). Some analyses of commercial corn syrups. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 6, pp. 714-715. November 15, 1925.
Leopold, A. (Forest Service). Wilderness as a form of land use. *Jour. of Land and Public Utility Economics*. October, 1925.
Miller, R. N. (Forest Service). The relation between cooking conditions and yield and quality of sulphite wood pulp. *Paper Mill and Wood Pulp News*. October 10, 1925.
Mitchell, L. C., and Samuel Alder (Chemistry). The preparation of buffer samples for analysis. *J. Assoc. Official Agr. Chemists*, vol. 8, no. 5, pp. 574-585. August, 1925.
Munch, J. C., and E. W. Schwartz (Chemistry). Narcotic and toxic potency of aliphatic alcohols upon rabbits. *J. Lab. & Clinical Medicine*. St. Louis, vol. 10, no. 12. September, 1925.
Preble, E. A. (Biological Survey). The insistent katydid. *Nature Magazine*, vol. 6, no. 5, p. 305. November, 1925.
Reynolds, R. V., and A. H. Pierson (Forest Service). Tracking the sawmill westward. *American Forests and Forest Life*. November, 1925.
Rue, J. D., and Wm. Monsson (Forest Service). A new method of cooking straw for strawboard. *Paper Mill and Wood Pulp News*. October 24, 1925.
Skinner, W. W. (Chemistry). Proposed weight standard for ice cream. *Agr. Res.*, vol. 30, no. 10, p. 511. October, 1925.
Smith, W. D. (Agricultural Economics). Suggestions regarding rice threshing. *Arkansas Rice News*. September 21, 1925.

CIVIL SERVICE ANNOUNCEMENTS

Senior plant propagator, \$1,860. Vacancies in the Bureau of Plant Industry, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close December 26.

Assistant plant pathologist (a) fruit; (b) truck crops, \$2,400. Vacancies in the Bureau of Plant Industry, for duty in the States of Oregon and Washington and at Greeley, Colo., and in positions requiring similar qualifications throughout the United States, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close December 15.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

Ontario. Agricultural enquiry committee. Report. Toronto, 1925.
Roy, Louis. Le mellois agricole. Industrie mulassière. Niort, Ecole d'agriculture, 1924.

DOMESTIC ANIMALS

Fleck, O. R. Vergleichende untersuchungen über die knochenstruktur zwischen dem flachen und dem normalen hufbein. Borne, R. Noske, 1925. Inaug.-diss.—Leipzig.
Spöttel, Walter. Über variabilität, korrelative beziehungen und vererbung der haarfeinheit bei schafen. Leipzig, 1925.
World's poultry congress and exhibition. 2d, Barcelona, 1924. Book of the congress and description of the exhibition. Barcelona, Graphic art co., 1924.

VETERINARY MEDICINE

Larisch, P. S. Die gastrophiliasis des pferdes. Breslau, Grass, Berth & comp., 1925. Inaug.-diss.—Leipzig.
Reichart, R. E. Statistische betrachtungen über disponierende einflüsse bei acarus-krankungen des hundes. Leipzig, A. Edelmann, 1924. Inaug.-diss.
Schlenker, Traugott. Therapeutische versuche mit "Phlogetan" bei den verschiedenen formen von staupen und einigen hautkrankheiten des hundes. Leipzig, A. Edelmann, 1925. Inaug.-diss.

DAIRYING

Bodroux, Fernand. Un danger social. Les falsifications courantes du lait (écrémage et mouillage). Vannes, Impr. Lafolye freres & cie, 1924.
Vandevelde, A. J. J. Over meld en melkvervalsching. 3. uitg. Antwerpen, "De Sikkel," 1925.

HORTICULTURE

Juignet, Edmond. Les asperges. 2. éd. Lucçon, Impr. H. Rezeau, 1925.
Sanders, T. W. Kitchen garden and allotment. 6th ed. London, W. H. & L. Collingridge, 1925.

CROP PLANTS

Farmer, J. B., and Killby, L. G. A cotton research station for the British Empire. London, Empire cotton growing corporation, 1925.
Gt. Brit. Board of trade. Committee on flaxseed and flax growing in the United Kingdom. Interim report. Flaxseed. London, 1925.

SOILS

Greaves, J. E., and Greaves, E. O. Bacteria in relation to soil fertility. New York, Van Nostrand, 1925.

ROADS

Gt. Brit. Committee on traffic problems. Report of the committee of representatives of police forces in Great Britain and of road users appointed to consider and report on traffic problems. London, 1925.
Marchants, Augustin. Recopilacion sobre caminos. Santiago, Impr. Santiago, 1921.

HOME ECONOMICS

Bigelow-Hartford carpet company, New York. A century of carpet and rug making in America. New York, 1925.
Hasluck, P. N. Sewing machines. New York, Funk and Wagnalls [n. d.].
Lewen, Jane. Millinery. New York, Macmillan, 1925.
Murray, M. H. Domestic handicrafts. London, Sir I. Pittman & sons, 1925.
Snedden, D. S., ed. Home economics education. New York, Teachers College, Columbia university, 1924.

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The installation of a leased wire from Atlanta to Jacksonville on November 2 marked the opening of the market news service for Florida fruits and vegetables. Cooperative market reports will again be issued by the State marketing bureau at Jacksonville and by temporary field stations. The station at Orlando, on citrus fruits, will be the first one to be opened.

WORK UNDER PURNELL ACT SHOWS RESULTS

(Continued from page 1)

ing 12, animal diseases 6, and agricultural engineering 11.

In agricultural economics 145 projects have been submitted, as follows: Economics of production 21, farm organization and management 32, markets and marketing 66, rural taxation 9, farm credit 6, and land economics and miscellaneous 11.

There are 18 accepted projects in rural sociology, divided about equally between rural social organizations and agencies, on the one hand, and rural population groups, migrations, and the like, on the other.

In home economics there are 53 projects, classed as follows: Food and nutrition 21, vitamins and factors affecting them 15, household management and equipment 16, and clothing 1.

It should be noted that there are 216 projects dealing with the less-developed lines of work in agricultural economics, rural sociology, and home economics, as compared with 181 dealing with the more thoroughly studied problems of production. This coincides with the spirit and intent of the Purnell Act and recognizes an urgent present need for development of these fields of investigation. Thirty-six States have submitted projects in the field of production, 39 in agricultural economics, 11 in rural sociology, and 27 in home economics.

The approximate division of Purnell funds between these different groups is as follows: Production, \$265,000; agricultural economics, \$275,000; rural sociology, \$40,000; and home economics, \$110,000.

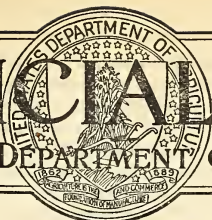
Projects are New and Varied

The projects submitted not only cover a wide range but are quite varied in character, many opening up entirely new lines of investigations; a considerable number are enlargements or outgrowths of work already well established. They range in grade from simple surveys and experimental work to the more advanced types of research. A large proportion of them provide for carefully considered, well-organized investigation, conforming to the highest standards of research and giving much promise of useful results.

An especially notable feature of the project program as a whole is the concrete evidence they furnish of the growth of the cooperative spirit within the stations, between stations, and in the department's relations with the stations. They indicate a wide acceptance of the Secretary's view that "cooperation is good for research."

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 47

SECRETARY ADDRESSES LAND-GRANT MEETING

Commends Research, Instruction, and Extension Work on Fiftieth Anniversary

"The passage of the Purnell Act, providing enlarged Federal support for agricultural experiment stations, is one of the most notable instances in history of the granting of public funds for the advancement of knowledge through research," said Secretary Jardine, speaking at the meeting of the Association of Land Grant Colleges in Chicago on November 18. "In no other case of which I am aware," he continued, "has such broad recognition been given to the subjects of agricultural economics, home economics, and rural sociology. * * *

Purnell Act Affords Great Enlargement

"It is a significant fact that this great enlargement comes in the year marking the fiftieth anniversary of the establishment of the first experiment station in this country. In this relatively short span of time the experiment station has grown from a weak, ill-nourished child to a strong lusty youngster that already has taken its place among the foremost research agencies of the time. In our plans for the future it is imperative that we continue to see the field clearly, and that we organize the new efforts on a basis which will commend itself to science as well as to agricultural practice.

"In agricultural economics, as in production, the need is for accurate and definite information acquired under scientific control. There has been great demand for it. * * * We need to provide the means which will enable the farmer to understand and interpret the current information which is being supplied him from many sources.

"Like attention needs to be given to research in home economics as represented by the farm home. A considerable basis for this is already in exist-

ence, but it needs to be systematized and applied to the conditions of rural living. * * *

"Mention of these newer fields in which research has been provided for should not lead to the inference that production problems will not need to receive continued attention. Production research is basic to improvement, protection, and better adjustment of our agriculture. It is realized, I am sure, by all of us that production is the basis of agriculture. The newer lines of research must always be coordinated with the program of research in production, thus strengthening the entire working plan.

Department and Stations Knit Together

"In all our work it is essential that we see the problems of agriculture as a whole. Particularly must those of us who are in administrative and executive positions have a vision of agriculture and rural life in which each phase must have its proper place and be properly related to every other phase. In this scheme of things every department of every experiment station and every bureau of the United States Department of Agriculture will be seen to have its proper part. Investigations of the department and the State experiment stations will thus form a well-rounded, coordinated system knit together by co-operation and by mutual understanding of what is being done. * * *

"Not only does the expansion of work demand the cooperation of all of us and the coordination of all our efforts, but it needs also the constant interest and sympathy of the people whom we are specifically endeavoring to serve. I congratulate the stations on the progressive step that they have taken in inviting representative farmers in the several States to advise with them on the problems which should be undertaken. In this way not only has interest been gained, but useful suggestions have been secured from the viewpoint of men who are close to the soil. Agricultural research needs to combine scientific method and spirit with keen appreciation of the

(Continued on page 3)

DELEGATES RETURN FROM SOUTH AMERICA

Trip of 15,000 Miles Through Many Countries Afforded Insight into Conditions

Thomas H. MacDonald, chief of the Bureau of Public Roads, who was one of the official delegates to the Pan American Congress of Highways at Buenos Aires, and Fred W. Perkins, chief of the Office of Motion Pictures, who was an attaché of the delegation, returned to New York November 9. In the two months of their absence the members of the delegation traveled more than 15,000 miles.

Officially Received by Six Governments

After departure from New York on September 3, the party passed through the Panama Canal; was received by the Governments of Panama, Peru, and Chili; visited General Pershing at Arica, Chili, and the United States naval ship *Rochester* in the harbor of Arica; passed over the Andes Mountains by rail into Argentina and to Buenos Aires, where the party was received by representatives of the Argentine Government and spent two weeks in the work of the highway congress. From Buenos Aires the party went by steamer to Montevideo, Uruguay, being received there by the Government, and from Montevideo to Santos, Sao Paulo, and Rio de Janeiro, Brazil. From the time of arrival in Santos until departure from Rio the members of the party were the official guests of the Brazilian Government, and here, as in all other countries visited by the delegation, elaborate programs of road inspection and entertainment were carried out.

Mr. McDonald reports that the leaders of all the countries visited by the delegation are alive to the vital need for improved transportation facilities, and the sentiment of the masses is slowly but surely crystallizing, as evidenced by the

insistent demand for more improved roads everywhere.

The influence which the building of international and national systems of highways will have upon the future relations between the countries of the Americas is of the deepest significance, while the effect upon foreign-trade conditions is destined to be far-reaching indeed.

Lack of Roads Greatest Difficulty

The great difficulty faced by the countries to the south of us is the lack of roads. Almost everywhere in the Latin republics the delegates found that the cities are virtually walled in. Santiago, Rio de Janeiro, Lima, all of the capitals, have practically no outlets. Imagine the city of New York or Chicago, or any other center of population in the United States, entirely cut off from the surrounding country, except for railways, and some conception of South American conditions will be gained.

The Pan-American Congress of Highways was called as the result of a resolution passed at the Fifth International Conference of American States held at Santiago in 1923. The invitation for it was issued by the Argentine Government, and as a preliminary event the United States Government, cooperating with private groups, invited a selected list of Latin American highway engineers to make an inspection of highway transport in this country. This was done in 1924. Later Congress authorized the President to name a delegation to represent our country at the congress at Buenos Aires.

The work of the congress reflected in no small measure the results of the earlier event. Many of the men who had come here were present among the delegates from the 19 countries represented at Buenos Aires and taking a leading part in the discussion.

The program finally adopted was one of sound economic and highway engineering principles and so important did the men present feel the work to be that they decided to make the congress permanent and voted to hold the second meeting at Rio de Janeiro, Brazil, in 1927. A preliminary meeting will probably take place in Cuba next year.

Aside from the deliberations within the congress which lasted 10 days, the hundreds of columns of newspaper discussion, the emphatic indorsement given highway development by each of the executives with whom the delegation had audiences, the interest which bankers and industrial leaders took in the work, all evidenced the serious approach which Latin America is making to this problem.

The motion pictures made by Mr. Perkins in connection with the journey show seven presidents—the chief executives of Panama, Peru, Chile, Argentina, Uruguay, Brazil, and the United States—all of whom received the United States delegation. The films also contain instructive and striking scenes of highway and traffic conditions in all the countries that were visited, as well as pictures of the Panama Canal, agricultural activities, important buildings, points of scenic interest, handling of ocean cargoes by lighters, and other pictures at Buenos Aires and other large ports.

The motion pictures are now being printed and will be made available for public distribution as soon as the finishing work can be performed. Circulation will probably be arranged in co-operation with the Department of State and the Department of Commerce, which assisted in the making of the films.

CONDITIONS IN RUSSIA DESCRIBED

Harold Ware, president of the Russian Reconstruction Farms (Inc.), gave an illustrated lecture to members of the Bureau of Agricultural Economics on the evening of November 16 on his work and present conditions in Russia. Mr. Ware's talk was full of human interest and gave a vivid picture of peasant life in the great Black Soil Belt, the important grain-producing section of Russia.

The most significant movement among the peasants at present, according to Mr. Ware, is the tendency to leave the old villages and to settle in small groups upon their allotments of land. The old village system of living made it necessary for many of the peasants to travel many miles to reach their allotted plots of land, and they lost much time in doing this. There is a growing tendency for small groups of peasants to form cooperative societies (called "artels") for the purpose of obtaining credit with which to purchase modern machinery for producing crops or to build new residences. Each peasant is allowed to occupy about 10 acres for each member of his family. The machinery purchased by the group in co-operation is used to cultivate and harvest crops on all land belonging to this group.

Mr. Ware closed his talk with an optimistic note, stating that conditions are steadily improving and that the future outlook for Russia is becoming brighter.

Dr. F. Materna, of Vienna, Austria, was a recent visitor at the gipsy-moth laboratory of the Bureau of Entomology at Melrose Highlands, Mass.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

REPORT ON LIVESTOCK INSPECTIONS

Inspections of livestock exported through American ports to various foreign countries during the year ended June 30, 1925, totaled 50,252 head, according to a current report of the Bureau of Animal Industry of the department. The inspections were of veterinary character, involving tests suited for the different classes of animals, and also included supervision over the fittings of vessels to insure humane handling and safe transport. Cattle and sheep predominated in the shipments.

DEMAND FOR INCREASED CORN CROP

The increased corn crop this year will be largely offset by the likelihood of increased feeding demand, smaller supplies of some other feed crops, and the large supply of corn which will be needed to replenish farm stocks, the department says in an analysis of the situation.

1925 WORLD WHEAT CROP LARGE

Wheat production in 32 countries of the Northern Hemisphere this year is nearly 300,000,000 bushels more than last year, being 2,953,000,000 bushels compared with 2,684,000,000 bushels in 1924, the department reports on the basis of estimates received up to November 12. The 1923 crop was 3,022,000,000 bushels.

Dr. Blanche Haynes, director of maternity and infant care, Children's Bureau, Department of Labor, spoke on "Educational work in infant and maternity care under the administration of the infant and maternity act, known as the Sheppard-Towner law," at a conference of department extension workers and others interested, in the Office of Cooperative Extension Work, November 18. Opportunity exists, Doctor Haynes believes, for much effective cooperation between cooperative extension and Sheppard-Towner workers, particularly along nutrition lines in the demonstration of well-balanced diet for mothers and infants and in home production of essential foods. Doctor Haynes outlined recent developments and plans in Sheppard-Towner work, which is now in progress in 43 States.

SECRETARY ADDRESSES LAND-GRANT MEETING

(Continued from page 1)

mental attitude and the needs of rural people. Farmers are seeing to an increasing degree the importance of scientific research to their profession, and they are ready to give us their interest, their counsel, and their cooperation.

"In our devotion to research and our realization of its importance to agriculture and rural life, I am happy to note that we are not relaxing our interest in the other two fields for which land-grant colleges stand—resident instruction and extension work away from the campus. Instruction of students who come to the colleges is often more trying than research and less spectacular than extension activities, and its satisfactions are sometimes less tangible than those afforded by the other two fields. Nevertheless it deserves strong emphasis. Even with the great increase in college enrollments in recent years, student bodies still represent a selected group. They are future leaders. Their personal relationships in the communities to which they go will enable them to spread the gospel of a better agriculture and rural life more convincingly than it can be done by perhaps any other means. * * *

Must Combine Science with Rural Viewpoint

"Students should acquire in the colleges a familiarity with and confidence in scientific method, and, at the same time, an appreciation of the point of view of everyday people on the farms and in the towns. It seems to me highly important, therefore, that the instructors in our land-grant colleges be men and women who will make to youth the appeal both to scholarship and to vision, and who at the same time have such a familiarity with current research and with contemporary public opinion as to impress their students with the significance of both of these to farming and rural life.

"I believe, too, that in our student bodies there is a great opportunity to teach lessons of cooperation. Instruction in the principles of cooperative marketing is likely to take an increasing place in the curricula of agricultural institutions. Cooperation, however, must go further than marketing. It must represent a way of life. In few places can greater impetus be given to this than among the students of our colleges, who will be the future leaders of their communities. * * *

"It is unnecessary for me to point out the vast importance which attaches to extension work. You all know it and

recognize it. Our extension workers are the link between research and actual life on the farms. They interpret to farm men and women and, indeed, to farm boys and girls the results which scientists have obtained in the laboratory, the feed lot, the experimental plot, and the economic or sociological survey.

Only Trained Workers Should Make Surveys

"So important is extension work proper, so definitely useful is it to the people on the farms, that little time can be left out of the busy days of extension workers for other than extension duties. There appears to be a growing tendency to use extension workers, particularly those regularly located in the counties, in the gathering of research information by means of surveys and questionnaires. This is an activity not contemplated by the Smith-Lever Act and may materially interfere with regular extension duties if the practice is permitted to develop further. I realize the desirability of the use of the survey and questionnaire method by extension agents in the gathering of information about local conditions on which to base community and county programs of extension work. Where surveys are to be made for broader application, however, they should be undertaken, I feel, only by trained survey workers, and the extension staff in general should not be required to participate in them. Extension workers, because of their wide contacts, naturally are in position to advise our research staffs as to representative communities or districts in which surveys may well be made, but in most instances their services should be confined to this advisory capacity. * * *

"Extension workers are doing a great deal in reaching not only individual farmers but organizations of farmers. This is in direct line, it seems to me, with the tendency of our time, a tendency which, by the way, is most hopeful. The individualism and the isolation which in the past have kept farmers from coming closer together are disappearing under the influence of contemporary conditions. In organization after organization farmers are working together effectively, and the information given to them by extension workers has been both a powerful stimulus and a steadying force in their work.

"The development of cooperative marketing enterprises furnishes a growing group of new farm organizations to which valuable information can be furnished. Because of their large and increasing membership, information utilized by them will affect the agriculture of the country directly and substantially."

Give Facts—Not Decisions!

The Secretary especially urged that extension workers never make decisions for farmers or farm organizations. Such decisions should be made by the farmers themselves who are directly responsible. While welcoming facts from authentic sources, he said, "they seldom welcome outside direction."

In addition to their work directed specifically to farmers and their families, the Secretary went on to say that the land-grant colleges can perform still another service. "They can interpret agriculture to the people in the towns and cities. These people do not know farming and the farmer. We are in position, it seems to me, to aid in the development of such knowledge and understanding.

"The problems of agriculture, particularly its economic and sociological problems, will never be solved by farmers and agricultural workers alone. The understanding and cooperation of people in other fields of human activity will be essential. So complex and interrelated are the conditions of our civilization to-day that no one group can stand alone. We who are interested in the colleges and the various phases of work which they represent must recognize this fact and act upon it. In a more specific sense than ever before, our problems are national problems, and they will be solved through our taking into consideration not only all parts of the country and all institutions, but all groups in the population. * * *"

TEXAS FOOT-AND-MOUTH CAMPAIGN

The campaign in Texas against foot-and-mouth disease has been unattended with any untoward development during the past month and according to information received from the Bureau of Animal Industry on November 18, the outlook is excellent.

All infected premises have been cleaned and disinfected. Large numbers of vouchers covering the department's share of indemnity for animals slaughtered have been paid. The auditing of these claims is being expedited in order that payments may be made with the least possible delay.

In spite of the especially favorable conditions at this time, the organization which has achieved such splendid results will remain in the field and there will be no relaxation of vigilance until sufficient time has elapsed without an outbreak to warrant the conclusion that the disease has been eradicated.

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E. F. KELLEY SUCCEEDS A. T. GOLDBECK

Announcement was made on November 14, of the appointment of E. F. Kelley to succeed A. T. Goldbeck, who recently resigned, as the chief of the division of tests and research of the Bureau of Public Roads.

Since 1920, Mr. Kelley has been associated with the bureau on special work in connection with the standardization of bridge specifications, serving since 1921 as the chairman of the subcommittee on bridges and structures of the committee on standards of the American Association of State Highway Officials. Those who have followed his career in that connection are confident that the important work of the bureau's testing division has been placed in competent hands.

Mr. Kelley was born at Latimer, Iowa, on July 29, 1886. His collegiate education was received at the University of Minnesota and the Iowa State College from which he was graduated in 1909 with the degree of bachelor of civil engineering. In 1919 he received from the same institution the degree of civil engineer. After four years with the American Bridge Co. at Ambridge, Pa., he returned to Iowa to begin six years of service with the Iowa State Highway Commission as assistant designing engineer and later as assistant bridge engineer. From 1919 until he entered upon his work at the Bureau of Public Roads in 1920, he was associated with the Red Oak Bridge & Iron Works, of Red Oak, Iowa.

GOVERNMENT EMPLOYEES

It is quite popular to comment adversely upon the so-called "cinch" of Government employees. Washington correspondents and others delight in giving them a slam every once in a while, commenting on the fact that Government employees get 30 days' vacation every

year with pay and are entitled to another 30 days' sick leave.

There are, however, some Government employees who have no "cinch." They are earnest, enthusiastic workers who receive less pay than workers in other similar lines employed by private individuals.

We know of Government employees who have passed up opportunities to connect themselves with big corporations at greatly advanced salaries because they were in love with their jobs and because of the public service they were able to render. Especially is this true in the scientific-research departments of the Government. Scientific men, especially educated for their work, are not so much interested in the amount of pay they receive as they are in the results accomplished.

In regard to the "sick-leave graft," as some writers are pleased to call it, statistics prove that the average loss of work on account of sickness in Government departments is actually less than the average sickness rate of the whole population of Washington. Even private concerns, in many cases, continue the pay of their employees during absence on account of sickness.

There may be much philandering among Government employees and some of those who hold political jobs may not give value received for the pay they draw, but as a rule the rank and file of Government workers are not overpaid, neither are they incompetent or lazy. (The Wareham Courier, Wareham, Mass., October 16.)

EDITORIAL PRAISES EXTENSION REPORT

The following editorial comment appeared in the Modern Priscilla for November, 1925. This magazine is devoted to the interests of women in the home, and the household editor who wrote the editorial is Mrs. Della Thompson Lutes. It is helpful to have attention called in this way to the service the department endeavors to render through home demonstration and club work:

"I have just finished studying the United States Department of Agriculture report of cooperative extension work for 1923 and so greatly am I impressed by it that I want to express my admiration and appreciation.

"This is a most impersonal and practical kind of report, simply setting down in facts and figures what has been accomplished in one year. And yet, reading it as I do, with a vision in my mind of the homes into which this work has extended, I find its pages glowing with zeal, fervid with enthusiasm, tingling with purpose. It is a splendid record

of achievement, and it is the story of but one year.

"It is especially the extension work in home economics that we, quite naturally, follow most closely, since ours is of similar import, although, being farmer born, I have keen appreciation of what is also being done for agriculture. But it is with a sense of amazed admiration that I read facts like these:

"In one year, in one group of States alone, 13,277 home makers were influenced by extension workers to better the management, equipment, and furnishings of their homes.

"In another group of States, 2,626 kitchens were rearranged for improvement, and 4,300 homes installed labor-saving devices. In the Southern States, 11,952 homes installed new equipment, and in just 10 counties of California alone 1,506 homes were in one way or another benefited by the extension work.

"What has been done in food, nutrition, clothing, and millinery is equally impressive. Health and sanitation have been duly emphasized. Instruction in home nursing, first aid, and care of children has been given. Sewerage disposal systems, water systems, and hot water systems have been installed. Home decorating is another matter that is receiving the consideration of the extension workers.

"I have said nothing about the junior extension work which is merely a well-laid plan for the education of the next generation of home makers. I haven't room. Send for the report (Department of Agriculture, Washington, D. C.) and read it for yourself. It is fascinating and illuminating literature."

MAILING LISTS ESTABLISHED

The mailing lists section, Office of Information, announces the establishment of the following mailing lists of the department:

LISTS ESTABLISHED

Key No.	Bureau	Title of list
BAC-F....	Plant Industry.	Bacteriologists and other scientists in foreign countries.
BEL-F....	Agricultural Economics.	Economic bibliographies—foreign addresses.
482-B.....	Plant Industry.	Bacteriologists.

The Indianapolis Unity Club held its regular monthly luncheon meeting at the chamber of commerce on Monday, November 9. President W. A. Rhoades presided. After the business of the meeting had been concluded, a round-table talk followed. Various matters relative to the activities of the club were discussed, such as talks given by members before societies, and the display of the motion pictures of the department.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. How does the refined vegetable oil we use as food differ from the crude oil as it is pressed from the seed?

Answer. The impurities in the crude oil have been removed by caustic soda and the oil has been bleached with fuller's earth and deodorized by superheated steam under a high vacuum.

Question. What is the national forest 10 per cent fund, and how much did it amount to for the fiscal year 1925?

Answer. The act of August 10, 1912, gave 10 per cent of the national forest receipts to the Forest Service for the construction of roads and trails within the forests. This amounted to \$497,181.57 for the fiscal year 1925. To the present time the 10 per cent fund has amounted to \$5,088,330.54.

Question. To what extent do stumps in a field affect the rate of plowing?

Answer. In a test in South Georgia under identical conditions except for stumps, 9 acres of cleared field were plowed in the time required to plow 7 acres of stump field.

Question. To how many commodities have the facilities of the United States warehouse act been extended?

Answer. Ten products as follows: Cotton, grain, wool, tobacco, farmers' stock of peanuts, late crop of potatoes, dry beans, broomcorn, dried fruit, and sirup (cane and maple).

Question. Why is the term "efficient" or "adequate" given to certain proteins and what foods supply them in the ordinary diet?

Answer. Proteins are one of the chief constituents of all plant and animal cells. Plants are capable of building proteins from the chemical substances furnished by soil and air. Animals can not do this, but must rebuild the tissue cells from the proteins in their food. The animal body is, however, able to break down the complex plant proteins into the simple units that comprise them, and then to rebuild these units into its own characteristic body proteins. There are many such proteins, and all do not contain the same essential units or amino acids. For this reason certain protein foods may not supply all of the amino acids for the animal in question, and are therefore not adequate for nutrition

until supplemented by a protein furnishing the particular amino acids that are lacking. Meat, milk, eggs, and fish are valuable sources of efficient protein in man's diet.

Discuss Bulb Restrictions at Department Hearing

A spirited debate occupying the better part of two days was engaged in by the "pros" and "cons" on the restrictions on the entry of narcissus and certain other bulbs at a hearing held before Assistant Secretary Dunlap Monday and Tuesday, November 16 and 17. Representatives of garden clubs, importers of foreign bulbs, and commission men talked against the restrictions prohibiting importations which were authorized three years ago to become effective January 1, 1926, contending they would deprive the country of a source of much beauty. These persons were not thoroughly convinced that the insect pests said to be brought in with the bulbs constituted a menace to agriculture or horticulture, and they gave it as their opinion that American-grown bulbs are unsatisfactory for forcing and planting, are infested with pests, and would be inadequate as well as high in price.

American bulb growers, county agents, several Congressmen, and others defended the quarantine restrictions, citing instances of damage done by other introduced pests which were not a menace in their native countries but which became serious pests under our conditions. They further declared that American-grown bulbs were equally as satisfactory as imported bulbs, and that, while there is some infestation here, control measures would be more effective than were foreign infestation allowed to continue and add its quota to what is already present. Growers produced figures to show that their plantings had been greatly expanded during the three years and expressed the belief that the supply would be sufficient to take care of the demand. There are now, they said, total plantings of more than 150,000,000 bulbs for a market which annually imports only about 77,000,000.

The Federal Horticultural Board, charged with the administration of the plant quarantine act, held that the only basis for a reconsideration of the restrictions authorized in 1922, or for the objection of that action to the hyacinth, for example, must be information which clearly indicates that the establishment of these bulb pests in the United States is now so widespread and so impossible of control by any reasonable means that

the constant reinfestation from bulk importations will not greatly aggravate the situation—in other words, that the opportunity for protection from these pests has passed—and this is the only phase of the argument against the action which has any real force.

Secretary Jardine's purpose, therefore, in authorizing a detailed review of the bulb subject at this hearing, both with respect to the actual pest entry with bulb imports and to the extent to which such pests may already have gained foothold in the United States, was to develop the actual facts as they exist to-day as a basis for a decision on the necessity for any modification or for the reversal of the action of 1922.

The results of the department's investigation, both as regards the infestation shown in imported bulbs, and also the present status of establishment of imported bulb pests in the United States, were presented for the information of the conference.

Fruit Growers Contribute to Frost Protection Work

For a number of years the Weather Bureau has been conducting special fruit-frost services in the Western States as an aid to fruit growers in the protection of their orchards against frost. The several specialists who are assigned to this work during the winter and spring months render valuable service in orchard-heating operations by making temperature surveys of the fruit districts, supplying forecasts of impending frosts, testing for accuracy personally-owned thermometers and giving advice as to their proper exposure, and by conducting experimental work to determine the most economical and effective method of protection.

Because of the limited funds available for this work, various fruit growers' organizations contribute considerable additional amounts annually, thereby enabling the bureau to conduct a more extensive service than would otherwise be possible. The following amounts were recently appropriated for this purpose by fruit interests at the places named for the ensuing winter and spring work:

Pomona, Calif.	\$1,298	Modesto, Calif.	\$500
Corona, Calif.	742	Puente, Calif.	400
Redlands, Calif.	794	Yakima, Wash.	530
Upland, Calif.	839	Kennecook, Wash.	450
Azusa, Calif.	806	Walla Walla, Wash.	500
Whittier, Calif.	743	Medford, Oreg.	450
Santa Paula, Calif.	847		
Lindsay, Calif.	628		

These figures attest the practical value of the service rendered by the Weather Bureau to the fruit industry of the Western States.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

COTTON MATERIALS STUDIED

Do you know that velveteen, India linen, and corduroy are all cotton materials, in spite of their trade names or their appearance? That there are almost a hundred common cotton materials women use in different ways for family clothing or household purposes? Do you know the difference between spun and reeled silk, worsted and woolen, satin and sateen? That although we instinctively look for goods that are "all wool and a yard wide," such material as part-cotton serge may give very good service considering its cost? That paper "yarn" is found occasionally in fabrics, combined with cotton, wool, or even silk fibers?

The Bureau of Home Economics in its textile division is studying a great many such questions with a view to aiding the housewife in the selection of the materials her family needs. Women ought to know more about the various kinds of fibers in each sort of material, the best materials for any given purposes, and how to make simple tests for durability and quality in each case. A cheap fiber is not necessarily a poor investment if the purchaser knows what she is getting, if it suits her purpose, and if the price is what it is worth.

Cotton, the bureau points out, may be chosen for its low cost, ease of laundering, coolness, and durability; mercerized cotton because it combines durability and beauty with low cost; linen for its absorbent properties, resistance to soil, beauty, and durability; wool for its warmth; silk for its great beauty and durability; and artificial silk, now frequently called rayon, for its extreme luster. Mixtures of fibers may be desirable in cases where wearing quality has not been too greatly sacrificed in order to lower cost. There are also many grades of cotton, linen, or other fibers, with which the purchaser should be familiar to some extent. The method of weaving a fabric is an important point, bearing upon its durability and attractiveness. Such familiar weaves as the basket weave, the twill, or the satin, mean to most of us entirely different materials, and influence our selection. The finish of a material should be understood, as, for instance, the difference between mercerization, which is a process that strengthens cotton and gives it a gloss,

and the finishes produced by applying pastelike fillings to the cloth. The subject of dyes is a very large one in itself, but the housekeeper can learn how to test whether the color of a material is fast to the purpose intended—fast to light or to water.

There is at the present time relatively little available to the consumer on the selection of fabrics. A bulletin dealing with the many kinds of cotton fabrics is now in press, and the bureau hopes to publish others on fabrics from time to time to meet household needs.

WITH EXTENSION FORCES

"EVERYBODY DRINKS"

"It's a habit we acquire early. Because we must drink, we might just as well drink the best," proclaimed a poster at Florida's recent Farmers' Week, adding, "A delicious drink of golden goodness—orange smash."

"Citrus fruits are good for all varieties of spring fever," averred another poster, which continued, "Have you that lackadaisical, listless, don't-care-a-hang, inappetent, inattentive, ambitionless, unconcerned, indifferent, insouciant feeling? Are you afflicted with an inclination to 'let George do it'? In other words, have you 'that tired feeling'? If you are not a very strong-minded person, 'that tired feeling' will drive you to the nearest drug store for a bottle of diluted alcohol economically medicated and labeled 'tonic,' when all you need is a Holmes Highball served at All-Florida Soda Fountain."

The "all-Florida soda fountain" was a demonstration held Friday afternoon of that week under the supervision of Isabelle S. Thursby, foods and marketing agent, and other specialists of the Florida extension staff. It resulted from concern because Florida homes, as well as hotels and other eating places, were failing to make use of Florida products to the extent which the character, quality, and supply of these products merit. The possibility was suggested that this might be because of lack of acquaintance with the local products and of ways to prepare them. "Why not plan a demonstration directed at this problem and present it at Farmers' Week, to which people come from all parts of the State," asked Miss Thursby.

After a tentative plan was sketched a letter was sent to each of the home demonstration agents, outlining what was contemplated and asking that as many counties as possible cooperate in the demonstration. A number of counties responded promptly, agreeing to supply a sufficient quantity of the county specialty

to serve those in attendance at the proposed demonstration. From this beginning the undertaking advanced rapidly.

Visitors to Farmers' Week found "From Florida farms to Florida homes" scheduled for Friday afternoon. Posters illustrated in color and printed with great care gave them curiosity-provoking suggestions of what was in store for them—the two quoted above and others equally stimulating, inviting attendance at the "All-Florida Soda Fountain."

When Friday afternoon came the soda fountain opened to dispense its interesting concoctions, all made from Florida products. Included in the list were guava ice cream; avocado ice cream; grape sherbet; Pride of Pinellas punch; rose julep; Duval foundation, using elderberry juice; orange smash; Volusia Venture, with roselle juice as a base; Perry Peach panada; sungold cocoanut crush; mint sparkler; mango malted milk mix-up; a grapefruit sherbet called Gleason's Cheer-up; lime cooler; sweet-potato bread; nut bread; and a number of other typically Floridian products.

A farm woman or the home demonstration agent from each county represented served the specialty which had been standardized by her county and told how it was prepared. A capacity audience attended, enjoyed the touches of humor, the social intercourse and delicious food, and took home with them a new impression of the range and character of the fruits of their own State and ways of preparing them. The Florida extension service plans to supplement the demonstration by publishing a bulletin giving the receipts and illustrations used.

SEEDLINGS NAMED AT "MUM" SHOW

Mrs. Jardine, wife of the Secretary, named the following seedling chrysanthemums at the annual department show held the first week in November:

Pompom varieties—Ruth Jardine (wine color, single); Rebecca Dudley Jardine (enchantress pink); Rita Hulme (bronze); Marion Jardine (blush pink); Clara Willis Call (bronze, semidouble).

Japanese varieties—Secretary Jardine (bronze) and Delia Lane Nebeker (pink).

The Florist Club of Washington awarded a certificate of merit to the office of gardens and grounds, Bureau of Plant Industry, of which J. Wise Byrnes is in charge, for the excellent exhibit at the chrysanthemum show, and has issued certificates of merit for the following varieties: Ruth Jardine, Rebecca Dudley Jardine, Golden Champion, General Pershing, Grace Coolidge, and Doctor Boone.

BRIEF REVIEWS OF NEW BULLETINS

Cotton Ginning. By G. S. Meloy, assistant chief marketing specialist, Bureau of Agricultural Economics. Pp. 27, figs. 25, October, 1925. (Farmers' Bulletin 1465.) Price, 5 cents.

This bulletin contains a general discussion of those mechanical processes of ginning of importance to farmers. Saw gins alone are treated, as only a small part of the cotton crop is ginned by any other method. The purpose is to bring to the attention of cotton producers, especially in those communities where cooperative handling and marketing of cotton is possible, the numerous benefits to be obtained by keeping the seed pure and by eliminating a portion of the losses caused by indifferent preparation of cotton for the market. Special attention is called to the careless preparation of the American bale of cotton, the seeming indifference to this matter shown by the farmer, the buyer and others handling it, and the losses arising from such indifference.

Food Habits of the Vireos: a Family of Insectivorous Birds. By Edward A. Chapin, formerly assistant biologist, division of food habits research, Bureau of Biological Survey. Pp. 44, figs. 9, November, 1925. (Department Bulletin 1355.) Price, 10 cents.

During the summer almost anywhere in the United States at least one species of vireo, and usually more than one, is to be found flitting about in the trees or shrubbery. This bulletin presents a detailed and technical study of the food and feeding habits of this family of insectivorous birds, with special reference to their economic status and the percentages of various insects and other items in their food. Most of the insects in the food of the vireos are either neutral or definitely injurious in their economic relations. All vireos are especially fond of caterpillars. They must be given credit also for destroying ants and grasshoppers, as well as the clover-root, clover-leaf, cotton-boll, and nut weevils, the plum curculio, bark beetles, round and flat headed borers, leaf beetles, click beetles, leaf hoppers, and many other injurious forms.

ADDITIONAL PUBLICATIONS

Experiment Station Record. Vol. 53, No. 5, October, 1925. Pp. 401-500. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experimental stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 31, No. 1, July 1, 1925. Contents: Further Studies on the Overwintering and Dissemination of Curcubit Mosaic. (G-489.) By S. P. Doolittle and M. N. Walker. Preliminary Report on Colloidal Clays as Emulsifiers for Mineral Oils Used in Spraying Citrus Groves. (G-488.) By W. V. Wothers and John R. Winston. Relation between Certain Heritable Properties of Wheat and Their Capacity to Increase Protein Content of Grain. (Calif.-40.) By W. F. Gerike. Spreaders for Spray Materials, and the Relation of Surface Tension of Solutions to Their Spreading Qualities. (Oreg.-10.) By R. H. Robinson. Associations between Number of Kernel Rows, Productiveness, and Deleterious Characters in Corn. (G-495.) By Curtis H. Kyle and Hugo F. Stoneberg. Pp. 1-99, 11. Price, 20 cents.

Vol. 31, No. 2, July 15, 1925. Contents: Bean Varietal Tests for Disease Resistance. (G-481.) By R. D. Rands and

Wilbur Brotherton, Jr.—Effect of Dehydration upon the Bacterial Flora of Eggs. (E-32.) By George De Bord.—The Effect of Low Temperatures on *Bruchus obtectus* Say, an Insect Affecting Seed. (Minn.-56.) By Walter Carter.—The Influence of Irrigation Water and Manure on Composition of the Corn Kernel. (Utah-19.) By J. E. Greaves and J. H. Nelson.—Cleaning Milking Machines. (1-2.) By L. H. Burgwald.—Laboratory Tests on Effect of Heat on Seeds of Noble and Silver Fir, Western White Pine, and Douglas-fir. (E-22.) By J. V. Holmann. Pp. 101-199, 11. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semi-monthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive descriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

Monthly Weather Review. Vol. 53, No. 8, August, 1925. Pp. 337-378, 11. Special Articles. An analysis of free-air observations in their relation to precipitation. By V. E. Jaki.—A statistical analysis of solar radiation data. By H. W. Clough.—Temperature and humidity of the upper air at San Diego, Calif. By B. H. Wyatt.—Development and present status of frost-fighting devices. By Floyd D. Young.—Value of smudge pots in preventing frost in cranberry bogs. By R. A. Wells & Perry Parker.—Sampling the higher atmosphere. By W. J. Humphreys. Papers read at the Portland (Oreg.) meeting of the American Meteorological Society, June 18, 1925: Wide-area forecasting of stream flow on the Columbia and Colorado. By J. E. Church.—The climate of British Columbia. By F. N. Denison.—The climate of Oregon during the Pleistocene Period. By E. T. Hodze.—Variability of precipitation in the State of Washington. By M. S. Summers.—Floods in the Willamette River. By Edward L. Wells.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 96. Rules and Regulations of the Secretary of Agriculture Governing the Inspection and Certification of Butter, Cheese, and Eggs. Pp. 8, November, 1925. Price, 5 cents.

Bureau of Animal Industry. No. 221. September, 1925. Pp. 85-92, October, 1925. Price, 5 cents.

Bureau of Chemistry. No. 201. Notices of Judgement 13501-13550. Pp. 261-288, October, 1925. Price, 5 cents.

Insecticide and Fungicide Board. No. 52. Pp. 1193-1227, November, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 9-14, 1925. Copies of these publications may be obtained from the stations issuing them.

Colseas barley. D. W. Robertson and A. Kezer. (Colorado Sta. Bul. 303, pp. 11, figs. 6, Oct., 1925.)

Factors affecting farm profits in the Williston area. J. E. Turlington and H. G. Hamilton. (Florida Sta. Bul. 175, pp. 20, fig. 1, July, 1925.)

Havana seed tobacco as influenced by timothy cover crop. J. P. Jones. (Massachusetts Sta. Circ. 73, pp. 3, Aug., 1925.)

Rural population groups. E. L. Morgan and O. Howells. (Missouri Sta. Research Bul. 74, pp. 68, figs. 11, Mar., 1925.)

The effect of a varying moisture supply upon the development and composition of the maize plant at different periods of growth. M. F. Miller and F. L. Duley. (Missouri Sta. Research Bul. 76, pp. 36, figs. 14, May, 1925.)

Metecological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, jr. (Massachusetts Sta. Met. Bul. 442, pp. 4, Oct., 1925.)

The manufacture of commercial feeding stuffs. J. L. Hills. (Vermont Sta. Bul. 246, pp. 46, figs. 16, Aug., 1925.)

DENVER U. S. D. A. CLUB

The first formal meeting of the Denver U. S. D. A. Club following the summer season was held October 15 in the dining hall of the Denver Chamber of Commerce. Vice Chairman Piper presided, and Dr. B. O. Aylesworth, Colorado director of markets, was the guest and speaker. Among other things, Doctor Aylesworth pointed out the large waste on the farm and all through the marketing process and called attention to the thought now being given to this condition by President Coolidge, Secretary Jardine, and Secretary Hoover. E. R. Bliss, a member of the Colorado State Board of Agriculture, was also a guest, and upon introduction to the club took the occasion to emphasize the fact that what the farmer wants from the department is education along the line of marketing. He also expressed his interest in and the value of the statistical work of the department.

STATE TO ADOPT PUBLIC-ROADS TEST

The California Highway Commission expects to adopt the field method of determining the moisture equivalent percentage of subgrade soil developed by the Bureau of Public Roads as its standard laboratory practice. In order that the laboratory operators may have a standard by which to recognize the condition and appearance of the soil when it contains the moisture equivalent percentage of moisture the Bureau of Public Roads will supply the commission, at the request of the latter, with samples of soil the moisture equivalent of which has been determined by the standard centrifuge method. These samples when wetted with the known moisture equivalent percentage of moisture will provide a gauge by which the appearance of a soil when it reaches the critical stage can be determined. The bureau will gladly perform a similar service for any other laboratories that may be desirous of employing the new test.

PRINCIPAL LIBRARY ACCESSIONS

POULTRY

Rice, J. E., and Botsford, H. E. Practical poultry management. New York, Wiley, 1925.

FORAGE CROPS

Duggar, J. F. Southern forage crops. New York, Macmillan, 1925.

ROADS AND ENGINEERING

Leeming, E. L. Road engineering. London, Constable, 1924.
Philadelphia. Chamber of commerce. Industrial relations committee. Proceedings of the Philadelphia and National conferences on the construction industries. Philadelphia, 1921.

COOKERY

Lockhart, Marion. Standard cook book for all occasions. New York, J. H. Sears, 1925.

INTERIOR DECORATION

Kirsch, C. W. Modern draping, a manual of window and door drapery design. Sturges, Mich., Kirsch manufacturing co., 1925.

CHEMISTRY AND CHEMICAL TECHNOLOGY

Arlitt, A. H. The effect of alcohol on the intelligent behavior of the white rat and its progeny. Princeton, N. J., Psychological review co., 1919. (Psychological monographs, v. 20, no. 4.)
Balestein, F. K. Handbuch der organischen chemie. 4. aufl. v. 8. Berlin, J. Springer, 1925.
Houben, Joseph, ed. Die methoden der organischen chemie. 3. aufl. v. 2. Leipzig, G. Thieme, 1925.
Preuss, E. Die fabrikation des stärkezuckers, des stärkezucker sirups u. der zuckeralkohol. Leipzig, M. Jänecke, 1925.
Zsigmondy, R. A. Kolloidchemie. 5. aufl. 1. teil. Leipzig, O. Spamer, 1925.

PHARMACY

Herzog, Joseph, and Hanner, A. Die chemischen und physikalischen prüfungsmethoden des Deutschen arzneibuches 5. ausgabe. 2. aufl. Berlin, J. Springer, 1924.

ENTOMOLOGY

Congrès national d'apiculture commerciale. 1st, Paris, 1924. Mémoires et comptes-rendus. Paris, Compagnie d'Orléans, 1925.
Dunmy, W. A. Our insect friends and foes. Philadelphia, J. C. Winston, 1925.
Wasmann, Erich. Die aisenmimikry. Berlin, Borntraeger, 1925.

HEREDITY

Roberts, Elmer. Plant and animal improvement. Boston, Ginn, 1925.

BOTANY

Beiträge zur allgemeinen botanik, hrsg. von dr. G. Haberlandt. v. 1-2. Berlin, Borntraeger, 1916-23.
Fuller, G. D. The vegetation of the Chicago region. Chicago, University of Chicago press, 1925.
Schwarz, M. B. Pink disease of teak. Wet-tvedren, 1925. (Buitenzorg. Instituut voor plantenziekten. Mededeelingen no. 68.)
Sorauer, P. K. M. Handbuch der pflanzenkrankheiten. 4. aufl. v. 4. Berlin, P. Parey, 1925.

COOPERATION

Totomants, V. F. The place of cooperation among other social movements. Manchester, Eng., Cooperative union, 1923.

TRAVEL

Ward, F. K. The land of the blue poppy. Cambridge, Eng., University press, 1913.

REFERENCE BOOKS

Bascom, E. L. Book selection. Rev. ed. Chicago, American library association, 1925.
Rus; a biographical register of rural leadership. Ithaca, N. Y., L. H. Bailey, 1925.

OLD BOOKS

Crescenzi, Pietro de. Pietro Crescenzio tradotto novamente per M. Francesco Sansovino nel quale si trattano Le Cose della vita. Venetia, appresso F. Rampazetto, 1564.

Hartlib, Samuel. An essay for the advancement of husbandry-learning. London, H. Hills, 1651.

PERIODICALS CURRENTLY RECEIVED

Irish farmer. v. 4, no. 19- Oct. 23, 1925-Dublin.
A Vinha portuguesa, vinhos e azeites; revista mensal de agricultura. anno 34, no. 11-Sept., 1925-Lisboa.
Zeitschrift für naturwissenschaften [bi-monthly] bd. 87, hft. 1- July, 1925-Halle a. S.

Articles in Current Publications by Department Workers

Boyd, Geo. R. (Public Roads). The value of the distribution of surplus war explosives. Agricultural Engineering, vol. 6, pp. 233-4. October, 1925.
Burth, D. S. (Animal Industry). Extending public knowledge of Federal meat inspection. Nat. Prov., vol. 73, no. 16, pp. 19-20, 42-43. October 17, 1925.
Fisher, W. S. (Entomology). A new cactus weevil from Texas. Jr. of the Washington Academy of Sciences, vol. 15, no. 8, pp. 42-46. October 1925.
Foster, S. B. (Animal Industry). Tuberculosis eradication in the northwest. Jr. Am. Vet. Med. Assn., vol. 68, no. 2. (n. s. v. 21) pp. 209-213. November, 1925.
Gill, L. S. (Plant Industry). Peridermium harknessi Moore in western yellow pine tops. Phytopathology, vol. 15, p. 617. October, 1925.
Goldbeck, A. T. (Public Roads). Should cement be made better for highways? Georgia Highways, vol. 3, pp. 19-21. September, 1925.
Crushed stone and gravel for concrete highways. Michigan Roads and Pavements, vol. 22, pp. 48-50. October 29, 1925.
Humphrey, H. B. and V. F. Tapke (Plant Industry). The loose smut of rye (Ustilago tritici). Phytopathology, vol. 15, pp. 598-606. October, 1925.
Humphrey, W. J. (Chemistry). Activities of the Bureau of Chemistry. The Grain Dealers Jr., August 25, 1925, p. 236, and September 10, 1925, p. 332.
Jay, R. (Animal Industry). The influence of diet upon immunity to hog cholera. Jr. Am. Vet. Med. Assn., vol. 68, no. 2. (n. s. v. 21) pp. 168-184. November, 1925.
Jones, D. B., Otto Moeller, and C. E. F. Gersdorff (Chemistry). Nitrogen distribution and percentages of some amino acids in the muscle of the shrimp, *Peneus setiferus* (L.). Jr. Biol. Chem., vol. 65, no. 1, pp. 59-66. August, 1925.
MacDonald, T. H. (Public Roads). Commercial vehicles on free highways. Jr. of Land & Public Utility Economics, vol. 1, pp. 385-97. October 1925.
Federal aid road progress. Michigan Roads and Pavements, vol. 22, pp. 30-2. October 29, 1925.
Montoth, John, Jr. (Plant Industry). Checking the growth of algae on greens. Bulletin of the Green Section U. S. Golf Association, vol. 5, p. 218. October 15, 1925.
Roe, A. C. (Public Roads). Principal findings and conclusions in highway subgrade studies to date. Municipal and County Engineering, vol. 69, pp. 210-213. October, 1925.
Schwartz, B. (Animal Industry). Occurrence of Ascaris in cattle in the United States. N. Am. Vet. vol. 6, no. 11, pp. 24-30. November, 1925.
Shantz, H. L. (Plant Industry). Plant communities of Utah and Nevada. Flora of Utah and Nevada, pp. 15-23. 1925.
Sherman, Caroline B. (Agricultural Economics). Heading the consumer's whims. American Bankers' Association Jr. November, 1925.
Snell, W. H., and Annie Rathbun-Gravatt (Plant Industry). Inoculation of Pinus strobus trees with spores of Cronartium ribicola. Phytopathology, vol. 15, pp. 584-590. October, 1925.
Snodgrass, R. E. (Entomology). Cankerworms. From the Smithsonian Report for 1924, pp. 317-334, 19 figs. 1925. (Publication No. 2807.)
Snyder, T. E. (Entomology). Communism among insects. The Scientific Monthly, vol. 21, no. 5, pp. 446-477, 14 figs. November, 1925.
Building codes should require ant-proof structures. The American City, vol. 33, no. 5, pp. 569-571. November, 1925.

Spaulding, P., and Annie Rathbun-Gravatt (Plant Industry). Conditions antecedent to the infection of white pines by Cronartium ribicola in the northeastern United States. Phytopathology, vol. 15, pp. 573-583. October, 1925.
Spaulding, P. (Plant Industry). A partial explanation of the relative susceptibility of the white pines to the white pine blister rust (Cronartium ribicola. Fischer). Phytopathology, vol. 15, pp. 591-597. October, 1925.
Tidestrom, Ivar an. (Plant Industry). Flora of Utah and Nevada. p. 665 (Contr. U. S. National Herbarium, vol. 25). 1925.
Wagner, W. W. (Plant Industry). Mistletoe in the lower bole of incense cedar. Phytopathology, vol. 15, pp. 614-616. October, 1925.
Walker, W. A., and N. F. Thompson (Plant Industry). Black stem rust and the progress of barberry eradication in Wisconsin. Bulletin Department of Agriculture of Wisconsin, no. 68, p. 24. May, 1925.
Webb, J. L. (Entomology). Origin and life cycle of grubs in cattle hides. Jr. of the American Leather Chemists' Assn. vol. 20, no. 10, pp. 453-456. October, 1925.
Weid, L. H. (Entomology). Another gall that secretes honeydew. Brooklyn Entomological Society. Bulletin, vol. 20, no. 4, pp. 175-179. October, 1925.
Yobe, H. S. (Agricultural Economics). Sound agricultural warehouse receipts for the bank credit manager. Robert Morris Associates. Monthly Bulletin, vol. 8, no. 5. October, 1925.

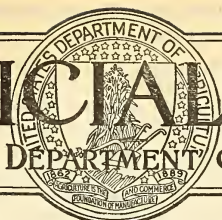
Thomas H. MacDonald, chief of the Bureau of Public Roads, and chiefs of the various divisions of the bureau, attended the annual meeting of the American Association of State Highway Officials held in Detroit, November 18-21. The district engineers from the 11 district offices and officials from the regional office of the bureau at San Francisco, also attended the meeting. Mr. MacDonald, who had just returned from South America, presented a paper on "Our International Relations as Shown by the Pan-American Road Conference in Buenos Aires." E. W. Thomas, chief of the division of design and secretary of the joint board on interstate highways was on the program to report the work of the board. Following the meeting, the annual conference of division chiefs and district engineers of the bureau was held.

The possibility of having the cow-testing-association movement extend to the island possessions of the United States is indicated in a letter received from the Honolulu Dairymen's Association (Ltd.). They state: "Our milk department is operated on a cooperative basis, and we are very anxious to start a cow-testing association through the dairy. This association would give us approximately 2,000 head of cattle and 53 dairies. I note that this would be an unusually large association. Will you kindly send me cow-testing-association letters following copy No. 1?"

Prof. Stephen Bruner, of the Agricultural Experiment Station, Santiago de las Vegas, Habana, recently visited the department to examine its collection of insects which is located at the National Museum.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., DECEMBER 2, 1925

No. 48

THREE HUNDRED AT LAND-GRANT MEETING

**Delegates from the Department,
States, and Bureau of Educa-
tion Confer on Problems**

The convention of the Association of Land-Grant Colleges held at Chicago, Ill., November 17-19, 1925, was attended by delegates from every State except Arizona and Florida and by representatives of the department and the United States Bureau of Education and others interested in the work of the association, the total registered attendance exceeding 300. The meetings were characterized by very earnest discussion and, in some cases, by decisive action on questions now vitally concerning education and research in agriculture, home economics, and engineering.

Stress Responsibilities of Colleges

The broader opportunities and responsibilities of the colleges in the development of agriculture were stressed in the presidential address of President A. F. Woods, of the University of Maryland, and their relation to home making and engineering by other speakers.

Secretary Jardine congratulated the colleges on the opportunity and means for broader service provided by the Purnell Act and emphasized especially the importance of cooperation and coordination of effort in research, teaching, and extension. He further suggested the need of developing a new leadership which will carry "to people not engaged in agriculture an understanding of its significance, its difficulties, and the place that it may and should occupy in the national economy of the future."

The importance and development of cooperation was also emphasized in other papers and discussions, notably in a paper by T. P. Cooper, of the Bureau of Agricultural Economics of the department, on organization for and relationships in cooperative research.

The relation which research bears to national agricultural policies and prog-

ress was strongly developed in papers by Dean F. B. Mumford, of Missouri; Dr. L. C. Gray, of the Bureau of Agricultural Economics; and Director B. Youngblood, of Texas.

Work Under Purnell Act Discussed

Questions of policy and lines of work under the Purnell Act, especially in the less-developed fields of agricultural economics, rural sociology, and home economics, received much attention, and distinct progress was made in the clarification of ideals and the formulation of basic principles which should guide in the planning and conduct of such work. The report of the committee on station organization and policy dealt exclusively with this subject, its conclusions and recommendations being summed up in 10 clear-cut declarations of policy, which were formally adopted by the association. A timely and helpful paper, particularly from the viewpoint of development of research in economics and sociology, was that of Dr. J. D. Black, of Minnesota, dealing with the principles and methods which should characterize sound investigation in these fields.

Home-economics problems of much present importance were effectively dealt with in a well-considered program. Especially noteworthy from the viewpoint of developing research in home economics under the Purnell Act were papers by Dr. R. E. Buchanan, of Iowa State College, on the organization of home-economics research in the land-grant colleges and by Dr. E. W. Allen, of the Office of Experiment Stations, on standards of research in this field; discussion by Director R. W. Thatcher, of New York, and Dean Margaret M. Justin, of Kansas, of the relation of home-economics research to the experiment stations; and reports on progress in organizing Purnell projects in rural-home management by Dean Anna E. Richardson and on vitamins in relation to human nutrition by Dr. Louise Stanley, Chief of the Bureau of Home Economics of this department.

A significant feature of an address by H. B. Shaw, of the North Carolina State

(Continued on page 7)

SECRETARY ADDRESSES MILK COOPERATIVES

**Emphasizes Department Policy of
Service—New Division of
Cooperative Marketing**

"For a long time a great group expression of our agricultural population has been needed, and this, I believe, we have found in the cooperative movement," said Secretary Jardine in an address before the National Cooperative Milk Producers' Federation at Philadelphia on November 24. The Secretary went on to say that the policy of the department toward cooperatives has been and will continue to be one of service and cooperation.

To Strengthen Cooperative Work

The cooperative organizations themselves, the Secretary said, requested that the research, educational, and service work of the department in cooperation be strengthened. Following a conference with cooperative leaders it was decided that this could be done by the establishment of a division of cooperative marketing. The establishment of such a division will give to the cooperative study of the department stability and permanence that it has not possessed heretofore. The plan provides for a personnel in the division of cooperative marketing to carry on research in cooperation and render service to cooperative organizations.

"The needs are twofold," said Secretary Jardine. "On the one hand is the necessity of greatly strengthening our scientific studies not only in cooperative problems themselves but in production, distribution, and other problems that are of special interest to cooperatives. This information, however, can not be of value unless it is made clear and actually applied by the agricultural population. For this reason we need to carry on a second line of work, that of disseminating fundamental information so that it is actually effective.

"Among the scientific problems to which we need to give further attention

is the problem of marketing and distributing the products that the cooperative associations handle. Studies in this field must be specific, thoroughgoing, and based on completely authenticated facts.

Business Organization Important

"The business organization and management of cooperative associations will always be of great importance. The business analysis studies that have been begun may be profitably extended. If the cooperative associations are to reach the same plane of efficiency as private organizations, they must have the advantage of studies similar to those made by great corporations. The department can not undertake to do this work for the cooperatives, but it can very properly outline the field, and develop methods in this important and difficult undertaking.

"Our scientific investigations must not be confined exclusively to problems directly under the control of farmers or farmers' organizations. The cooperative organizations are interested likewise in every problem which concerns, on the one hand, the building up of their own membership, and, on the other hand, the marketing of farm products.

"To strengthen the potentialities of cooperative organizations better financing of small farmers is of great importance. Although credit agencies are being developed to take care of the commodities handled by cooperatives, still greater attention must be given to this phase of agricultural finance. There is a great need, moreover, to give the right sort of assistance to the small one-crop farmer like the cotton grower. This is a weak place in our financial system. In considering this problem unbiased studies must be made, and definite facts secured, which may be presented to the proper agencies for providing remedies. In this particular field much must be done through the States, if the problem is to be solved, but this does not relieve us, who are interested in cooperation and in agriculture generally, from our obligation to obtain the necessary data.

Terminal Facilities a Problem

"In connection with the marketing of farm products, the other point which I mentioned, congestion in the terminal markets and inadequate and antiquated terminal facilities, have greatly increased the cost of handling the products. There is loss of time; there is waste of perishable commodities. This can not continue. The neck of the bottle must be made larger. Agricultural products must have adequate access to the public that wants them. The Department of Agriculture has begun the study of these problems, carrying on research, for in-

stance, in cooperation with the Port of New York Authority. I feel that this work should be expanded in order that valuable recommendations may be made. The cooperative associations of themselves can not solve this problem, but once the facts are ascertained they can get behind proposals to remedy the situation. This is one of the ways in which the cooperatives may greatly help in reducing the spread of price between farmer and consumer.

"To make our scientific studies of direct use to the organizations, we need a much closer link than we now have between the research workers and the leaders and members of the cooperative associations. The plan which has been worked out in conference with representatives of cooperative organizations contemplates the employment of commodity specialists, who would be familiar with the needs of the cooperative organizations, on the one hand, and with the research and service work of the department, on the other hand. These men would form a link between the associations and the department, and would disseminate correct crop and market information and data regarding price trends, conditions of supply and demand, and other important matters. At the same time they would be instrumental in guiding the research work of the department toward a closer study of the special problems of cooperative associations.

"It is important not merely to disseminate crop, market, and similar information, but also to supply facts regarding the principles and aims of cooperation. This is necessary in order to forward the development of sound cooperation, and to prevent the spread of spurious and doubtful schemes masquerading under the name of cooperation. The department can make an important contribution in this field. The employment of specialists in cooperative education, to work with the State agricultural colleges and the associations in developing special courses for members, officials, and employees of cooperative organizations, as well as nonmember farmers, is included in the proposed plan, and should be helpful in promoting a sound point of view toward the movement.

Need Definite Plan to Get Facts

"I have made no effort to outline in detail the problems that should be dealt with. There are many important problems other than those which I have mentioned and still others will arise as cooperation advances. What we now need and what we now contemplate is a definite plan which involves the securing of all the facts possible that may be of value and interest to cooperatives and

the interpretation of these facts and the placing of them before the cooperative associations. A further essential factor of the plan provides for close correlation, for close contact between the cooperative associations and the Department of Agriculture. It provides that the Secretary of Agriculture may call advisors to counsel with him regarding the needs of any agricultural product marketed by cooperative associations or regarding the legal, financial, or any other phases of cooperation.

"Thus, the department is not made a superior institution, handing down facts and opinions and regulations, but an organization coordinate with the other institutions which are working for the betterment of agriculture. The relation of the department to the cooperatives will be in itself a cooperative relationship. Moreover, as I have suggested, it is my intention that the department shall work in cooperation not only with the cooperative organizations but with the State colleges and experiment stations and with other agencies."

To Test Keeping Qualities of Tea in Different Types of Containers

The tea-inspection service of the Bureau of Chemistry is undertaking to test out the keeping qualities of tea in all of the different types of containers. Tea packers, container manufacturers, and container-manufacturing associations have become very much interested in the experiments and accordingly have cooperated to take care of practically all of the expenses connected with them.

The test is planned to cover a period of two years. It is not being made especially to show the best package, but, by determining the actual depreciation as shown by reduction in quality, to show the type of package which is best suited to the needs of tea packers and indirectly to packers of other food products.

The Bureau of Chemistry reserves the right to publish the general results of the investigation if it appears desirable. In publishing the results of this test the bureau will deal with types of containers only in the most general way. Under no circumstances will it deal with brands of tea or with specific makes of containers.

In connection with this project, the Bureau of Chemistry is cooperating with the division of simplified practice of the Department of Commerce, which expects to use the results in the elimination of undesirable types of tea containers and the standardization of tea containers. The Connecticut Agricultural Experiment Station is cooperating with the bureau in this project in studying the chemical changes, if any, that take place in tea under different forms of packing.

REPORT ON IOWA CORN SITUATION

Investigation of Credit Facilities Result of Recent Drop in Prices

Nils A. Olsen, Assistant Chief of the Bureau of Agricultural Economics, and Albert C. Williams, a member of the Federal Farm Loan Board, have returned from Iowa where they were sent at the request of Secretary Jardine to survey credit and farm-storage conditions in that State as they relate to the orderly marketing of the 1925 corn crop.

Low Prices Result of Large Crop

Mr. Olsen and Mr. Williams report that the recent break in prices is a result, primarily, of the large corn crop produced this year. Recent estimates place the crop for Iowa at 477,386,000 bushels, which is the largest yield in the history of that State. Analyzing the situation, however, they believe that several factors will tend to offset the effect of the increased crop. In their report to the Secretary they name these factors as follows: The low carry over of old corn from last year, short feed crops in some sections of the country, relatively higher prices for hogs and cattle as compared with corn prices and a probable increased feeding demand, a prospective increase in the number of hogs to be fed next summer, and generally good business conditions. On the other hand, the size of the corn crop, some reduction in the number of livestock, and the low prices of other feed grains are influences which may have a weakening effect on prices.

"There is much to support the view held more or less generally by farmers and others conversant with conditions," continues the report, "that at present prices farmers who have livestock to feed or are equipped to obtain and efficiently handle livestock should realize good returns by feeding corn, and that corn sold for cash should go to market in an orderly manner. Many bankers are encouraging this policy."

In order to carry out a program of increasing livestock holdings, feeding, and orderly marketing, the report states that quite a number of farmers will need more credit. In the main, farmers will probably receive adequate assistance from their local banks. Although reports indicate improvement in the banking situation, bank failures have been numerous in the State and there appear to be spots where existing credit

agencies are not able to meet present legitimate demands for credit.

Advocate Wider Use of Credit Facilities

"We believe," said Mr. Olsen and Mr. Williams in their report, "that the time is opportune for a wider use of the facilities afforded by the Federal intermediate credit system, which was established for the express purpose of aiding local banks and other credit institutions in financing the production and orderly marketing of livestock and other agricultural products. The Federal intermediate credit bank at Omaha stands ready to cooperate with farmers, bankers, and business men in providing sound credit for the orderly marketing of the corn crop. It can not, under the law, make loans direct to farmers, but it can rediscount properly secured farmers' notes, having a maturity of not less than six months and indorsed by an eligible bank or sound and well-managed credit corporation. The present rediscount rate of the Federal intermediate credit bank is 5 per cent per annum. The bank or credit corporation is permitted to charge in addition thereto not more than 1½ per cent, making the present maximum interest rate to the farmer 6½ per cent per annum. It is expected that some banks in position to do so will utilize the facilities of the Federal intermediate credit bank in meeting the needs of the farmers. In regions where adequate credit accommodations are not available through local banks, conditions can be improved through the organization of properly capitalized agricultural credit corporations which may rediscount paper with the Federal intermediate credit bank."

Will Loan on Warehouse Certificates

The report further states that the Iowa State warehouse act, passed in 1923 for the purpose of making grain stored on the farm more acceptable collateral for loans, has been in operation for too short a period to permit a fair appraisal of its merits. Experience will indicate whatever improvements are needed in the system. Many of the banks in the State have expressed their willingness to make loans on farm storage certificates issued under this act, and the Federal intermediate credit bank serving the State of Iowa is prepared to accept them as collateral to notes of solvent farmers when submitted for rediscount by an eligible bank or sound and properly managed agricultural credit corporation.

In concluding their report, Mr. Olsen and Mr. Williams state that while their mission was to survey credit and farm storage conditions in Iowa, they feel it should be added that deep interest was expressed in the problem of stabilizing

the prices of farm products and in bringing about a better relationship between the prices of the things farmers buy and the things they sell. Although the agricultural situation has improved since 1921, it is apparent that many Iowa farmers still labor under the handicaps of large debts, high operating expenses, high taxes, high interest rates on short-term loans, and also widely fluctuating and often unsatisfactory prices for their products.

Department's Meat Study Pleases Dean Mumford

Praise for the department's cooperation in connection with the national cooperative study of quality in meats was recently contained in a letter from Dean Mumford, of Missouri, addressed to Mr. Sheets, project leader for the department and coordinating executive for the cooperators. Dean Mumford is chairman of the committee on projects and correlation of research of the Land Grant College Officials' Association and has been one of the pioneers in this study. The letter follows:

MY DEAR MR. SHEETS: I have just received the outline for the cooperative project "A study of the factors which influence the quality and palatability of meat."

I congratulate you most sincerely on the form in which this is presented and the excellent committee reports which represent an exceptional amount of effort and sound judgment. I am certain that no one of the five major projects submitted to the committee on projects and correlation of research can compare with this outline in content, organization of subject matter, or in the distribution of the subprojects outlined by the subcommittees. It also comes nearer being complete in its scope and plan. I congratulate you most heartily upon this report.

If the committee appointed by the Livestock and meat board should go out of existence now, it would have accomplished a very great and important service. The task now is to induce as many experiment stations as possible to work upon the various phases of this project. I am delighted with the report and hasten to express my great appreciation for your own individual and untiring efforts in bringing it to so successful a conclusion.

Very sincerely yours,

F. B. MUMFORD.

Jorge Malottky, N. P. Escobar, jr., R. Escobar, and Juan Serrano, all of the Mexican Department of Agriculture, are studying agricultural practices in the United States. While in Fresno, Calif., these men visited the dried-fruit laboratory of the Bureau of Entomology located there. They, with other groups sent to various countries, will form the nucleus of the agricultural teaching staff of the schools presently to be established at several points in Mexico.



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Compensation for Personal Injuries of Civil Employees

In order to make clear to all employees of the department the matter of compensation for personal injuries we are publishing the following, issued by the United States Employees' Compensation Commission:

If a civil employee of the United States sustains an injury "while in the performance of his duty," he is entitled to—

1. Medical, surgical, and hospital service and supplies, and transportation if necessary to secure them. Treatment must be obtained from United States medical officers and hospitals, if practicable; if these are not available, then by physicians and hospitals designated by the Compensation Commission, a list of which will be found in the hands of the official superior or head of the establishment. Where there is no designated physician or hospital, or United States medical officer or hospital, any reputable physician licensed to practice medicine, or any hospital, may be employed.

2. Money benefits while disabled for work. Beginning on the fourth day of disability, or if leave with pay is taken, then on the fourth day after pay stops, and continuing throughout the entire period of disability.

If totally disabled, benefits to be at rate of two-thirds of the monthly pay (including value of subsistence and quarters, if furnished), but not more than \$66.67 nor less than \$33.33 per month, except when the monthly pay is less than \$33.33, in which case the monthly compensation shall be the full amount of the monthly pay. If partially disabled, benefits to be at rate of two-thirds of the loss of wage-earning capacity caused by the injury. If loss of wage-earning capacity is permanent, compensation is payable until death.

3. Burial expenses in case of death. Burial expenses not exceeding \$100 and

transportation of body of resident of United States dying away from home station, if relatives desire it.

4. Money benefits in case of death. Total compensation can not exceed two-thirds of monthly pay of deceased, which monthly pay for computing compensation shall be considered to be not more than \$100 nor less than \$50, but the monthly compensation can not exceed the monthly pay.

To widow or wholly dependent widower, 35 per cent of monthly pay of deceased employee until death or remarriage, and in addition for each child under 18, 10 per cent of monthly pay until death, marriage, or reaching the age of 18.

To one child under 18, if there is no widow or dependent widower, 25 per cent of monthly pay.

To each additional child under 18, 10 per cent—to be divided among the children equally; to be paid until death, marriage, or reaching age of 18 to child's guardian.

Also compensation to parents, brothers, sisters, grandparents, and grandchildren for eight years, or until death, marriage, or reaching the age of 18, if dependent on deceased.

No compensation is payable if the injury was caused by—(a) Willful misconduct; (b) intoxication; (c) intention to bring about injury.

DEPARTMENT EMPLOYEES RETIRED

According to information furnished by the office of personnel and business administration, action has been taken upon the retirement of the following employees of the department:

Charles T. Harrison, an assistant highway engineer in the Bureau of Public Roads, at Austin, Tex., was retired on account of age on September 26, 1925. He was born on September 27, 1855, and was 70 years of age the date of retirement. He has served continuously in this department since April 30, 1898, in various capacities in connection with highway construction work. His total governmental service the date of retirement was more than 27 years.

Mrs. Elizabeth Meredith, an office laborer in the office of publications, was retired on account of total disability, effective July 8, 1925. Mrs. Meredith had served continuously in this department since July 28, 1903, a period of almost 22 years.

RICHARD H. COOKE

Richard H. Cooke, familiarly known as "Captain Cooke," one of the oldest, if not the oldest, employee of the department in point of service, died on November 25,

1925. Mr. Cooke was born in 1842. After three years in the Union Army he entered the department as a watchman under an appointment by President Lincoln in the fall of 1864 and served continuously until his death. His services covered practically the entire history of the department, beginning even prior to the time when the whole establishment was housed in the present Main or Administration Building.

Mr. Cooke's erect blue-uniformed figure was a familiar sight to the Washington employees of the department and to thousands of visitors. He was a man of rugged physique and attended to his duties in the grounds of the department regardless of the weather, making his rounds on a bicycle up until a very few years ago. The flag on the Administration Building was placed at half staff on the day of his funeral.

WILL STUDY PROBLEMS OF CO-OPS

A study of the membership problems of centralized cooperative marketing associations is being undertaken by the Bureau of Agricultural Economics in cooperation with the Kentucky Agricultural Experiment Station. To this end plans are being made to visit practically all the large cotton and tobacco organizations in the South, numerous dairy organizations, and other large cooperative associations in the various sections of the United States.

The object is to study the membership problems of centralized cooperative marketing associations in order (1) to determine the fundamental facts responsible for the existence of such problems; (2) to analyze the methods and practices that are being used to meet these problems; and (3) to develop plans or suggestions for more effectively handling membership problems by educational methods.

RED CROSS ENROLLMENT

The enrollment of department employees in Washington in the ninth annual roll call of the District of Columbia Chapter, American Red Cross, aggregated \$728,000. In acknowledging the receipt of this remittance, Gen. John A. Johnston, chairman of roll call, writes:

"This is a splendid showing of interest in your department and merits our grateful appreciation."

A CORRECTION

In this column of THE OFFICIAL RECORD for November 18 the statement was made that the department allowed applications on certain patents. It should have stated that the Patent Office allowed the applications on patents of department employees.

NEW IDEAS AND DISCOVERIES

Toxicity of Sodium Silicofluoride and Arsenical Mixtures to Plant Foliage

In the course of experiments for the control of blister beetles (*Epicaula tem-niscata*), during May and early June, 1925, it was found that the application of a dust containing calcium arsenate and sodium silicofluoride gave much greater plant injury than in cases in which either of the components of the mixture was used separately. Similar results were obtained in subsequent cage experiments in which a dust mixture of 1 part of Paris green and 19 parts of sodium silicofluoride was used. Further tests, in which lead arsenate and sodium silicofluoride were used in a dust mixture, gave slight injury—about the same as that caused by undiluted lead arsenate.

It was concluded from these experiments that chemical reactions occur where either calcium arsenate or Paris green was mixed with sodium silicofluoride, in the presence of moisture, and that high percentages of water-soluble arsenic were released as a result of the reaction. Further tests of these mixtures were made in application to soybeans, this being the only crop available with tender foliage. The results of these additional experiments agreed closely with the preliminary tests.

Undiluted sodium silicofluoride in two grades ("C. P." and a commercial product containing 98 per cent) caused only slight burning, whereas mixtures made up of equal parts of calcium arsenate and sodium silicofluoride completely killed the soybeans. The mixture containing equal parts of lead arsenate and sodium silicofluoride caused some burning, but this was slightly less than that caused by undiluted lead arsenate.

In order to determine the nature and amount of chemical reaction, distilled water was added to a mixture of equal parts of calcium arsenate and sodium silicofluoride and allowed to stand for one hour. This leaching process was repeated several times and the final water-soluble arsenic (As_2O_3) varied from 87.87 to 93.8 per cent of the total amount of As_2O_3 in the mixture. In an experiment in which lead arsenate and sodium silicofluoride were used, the final amount of water-soluble arsenic (As_2O_3) obtained was only 1.5 per cent of the total amount of As_2O_3 in the mixture, this being about the amount normally found in the lead arsenate. In a similar experiment, in which Paris green and sodium silicofluoride in equal parts were used, the water-soluble arsenic (As_2O_3) was 9.4 per cent of

the total amount of As_2O_3 present. In a repetition of this experiment, in which 19 parts of sodium silicofluoride and 1 part of Paris green were used, the water-soluble arsenic (As_2O_3) was increased until it included 52.2 per cent of the total amount of As_2O_3 present. In tests in which Paris green was used, the increase in the percentage of water-soluble arsenic, with an increase in the amount of sodium silicofluoride used in the mixture, is apparently due to the displacement of the equilibrium in the mixture in the direction that gives a greater percentage of water-soluble arsenic (As_2O_3). The arsenicals used in these experiments contained the following percentages of total arsenic: Calcium arsenate, 41.16 per cent As_2O_3 ; lead arsenate, 33.26 per cent As_2O_3 ; and Paris green, 55.95 per cent As_2O_3 .

These experiments indicate that great caution should be used in combining sodium silicofluoride with certain arsenicals for insecticidal use on plants, especially those containing metallic elements which combine readily with the silicofluorides.

A. P. KEER,
Louisiana Experiment Station.
CHAS. E. SMITH,
Bureau of Entomology,
Washington, D. C.

RIVER AND FLOOD SERVICE PRAISED

In order to guard against a possible unexpected high water destroying their scaffolding and other falsework, a bridge construction company requested certain river forecasts from its local Weather Bureau station. That the service was of great benefit to the company is shown in a letter from its vice president to the official in charge of the station:

"We desire to thank you very much for your prompt attention to our wire of recent date. Both your wire and letter gave us a good deal of information which was vital to us at the time.

"We are practically across the river, so will not need any further information unless you should hear of a large rise within the next week.

"Our motto is 'One hundred per cent service and courtesy to all,' but the writer believes that we should step aside and grant you the pinnacle for both courtesy and service.

"We again wish to thank you and express our appreciation of such fine service from Uncle Sam."

In this connection the chief of the river and flood division remarks:

"Forecasts of this nature are of common occurrence, and this case merely affords another instance of the diversity of interests affected by the river and flood service of the Weather Bureau."

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. Is it necessary to license establishments manufacturing hog-cholera serum? Are such establishments under Federal supervision?

Answer. The virus-serum-toxin act of 1913 prevents any establishment from preparing and transporting anthrax-cholera serum and other biological products from one State to another without a license from the Secretary of Agriculture. All licensed establishments are under the supervision of the division of virus-serum control, Bureau of Animal Industry.

Question. Does the department test seed samples free of charge?

Answer. Seeds are tested free of charge by the seed testing laboratory of the Bureau of Plant Industry. Branch seed testing laboratories are also maintained in cooperation with the State Department of Agriculture, 1217 L Street, Sacramento, Calif.; Oregon Agricultural College, Corvallis, Ore.; State Board of Agriculture and State Agricultural Experiment Station, Columbia, Mo.; and the Purdue University Agricultural Experiment Station, Lafayette, Ind. It is the custom to make only 5 purity tests and 10 germination tests per month for any one person or firm.

Question. Has the department published any bulletins on food for the sick and convalescent or on diet in relation to specific diseases?

Answer. Though the department receives hundreds of requests each year for information of this sort, so far its publications have discussed problems of nutrition only from the standpoint of the normal healthy person. The regulation of diet in disease or during the convalescent period is best done under medical advice, and it is in many cases unwise for the individual to attempt to diagnose his food needs under such conditions. The relation between food and health, however, has been pointed out repeatedly, and the necessity for including an abundance of vitamin-rich foods in the diet as a preventative against the so-called deficiency diseases has been emphasized.

A directory of teachers giving courses in rural sociology and rural life has been compiled by the Bureau of Agricultural Economics. Copies may be obtained from the division of information upon request.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arkansas.—J. S. Knox, county agent in Howard County, has resigned to engage in commercial work. Mae Blakely, home demonstration agent for Hot Springs County, will succeed Mrs. Sallie Chamberlin Butler, district home demonstration agent in southeast Arkansas, resigned, the appointment effective December 1.

Kansas.—Glen Reed has been appointed county agent in Finney County. Ella M. Meyer has been appointed home demonstration agent in Franklin County, and Mary A. Worcester, assistant in charge of home economics, specialists at the State College.

Tennessee.—H. K. Foster, who has been employed in Cumberland County for some time, has been appointed county agent in Sequatchie County to succeed W. P. Flatt, resigned, Cumberland County having failed to make a satisfactory appropriation for the work. With the resignation of H. T. Pollard, Crockett County will be without an agent unless the court decides to reinstate the appropriation for the agent's salary which it refused to appropriate last January. Berley Winton, for the past two years connected with the Missouri Extension Service, as associate poultry specialist, has been appointed poultry specialist to work with the Nashville Chamber of Commerce. Angie Fleeman, for the past two years home demonstration agent in Cheatham County, has resigned on account of the failure of the court to appropriate sufficient funds for the work.

COURT DECISIONS

The quorum courts of Arkansas have made appropriations for county support for the coming year including the county extension agents. The amount, \$153,163, so far appropriated, will make possible the employment of about 115 county extension workers in 1926, practically the same number employed the past year. Several of the county quorum courts adjourned to reconvene in November, at which time they will consider appropriations for county extension work.

In practically every county where the question of appropriating money for extension work in Tennessee came before October courts, the proposition carried, in numerous instances unanimously.

NEW DEVELOPMENTS

Early reports from many of the 2,887 club boys in Alabama who grew cotton this year show gratifying results. In Tallapoosa and Coosa Counties, where

yields have been discouragingly low for some years, 90 club boys have reported a bale of cotton per acre, with the crops of the other club members equally promising. Thirty-five boys in Marion County are making from a bale to a bale and a half of cotton per acre. De Kalb County boys are averaging from three-fourths to a bale per acre. Over half of the cotton-club boys in St. Clair, Cleburne, Choctaw, and Shelby Counties have reported bale-to-the-acre crops. Franklin County boys, not content with merely making and harvesting an acre of cotton, are further demonstrating good farming by seeding their land with vetch.

An order for a 1,000-watt radio broadcasting station was recently placed by the Alabama extension service and it is expected to be ready for operation some time in December. Radio broadcasting by the Alabama Polytechnic Institute started in 1922, when a broadcasting station was given to the college by a Birmingham newspaper. Station WSY, at Birmingham, was given to the college this year, and the new station will be operated in connection with it.

A definite, 10-year farming program for Kansas is being formulated by extension forces of the State agricultural college and the United States Department of Agriculture as a result of the recent annual extension conference. The program has in mind a long-time development of fundamental agricultural projects in each county in which there is an extension worker. Instead of taking up various problems as they arise the agricultural condition of the county is being analyzed, the most important work needed to place farming in the county on a better footing is mapped out, and projects to bring the changes about begun, to continue until the desired results have been obtained. When the campaign gets under way, the co-operation of farmers, agricultural workers, and business men of the county will be enlisted.

Three first places for best herds of Jerseys, Guernseys, and Holsteins were taken by New Jersey calf club members in the National Dairy Show held at Indianapolis, October 10 to 17, against competitors from the great dairy States of New York, Wisconsin, Ohio, and Illinois. Fifteen animals raised entirely by boys and girls trained in dairy club work by the extension service took part in the herd contests, in which 185 animals from other States were entered. In addition to the herd competitions first prize money was taken in the individual classes on a Jersey, second on a Holstein, and third on a Guernsey, and a New Jersey club member won the gold medal for champion showmanship with Holsteins.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

COOPERATIVE WEATHER OBSERVERS

In addition to its hundreds of regular and special stations reporting weather conditions by telegraph to certain regional centers for use in making the twice-daily forecasts, the Weather Bureau maintains through voluntary co-operation about 4,500 other stations. The observers at these "cooperative stations" are lent Government instruments with which to make their observations, but serve without financial compensation. One observation a day is taken, usually near sunset, consisting of noting the highest and lowest temperatures for the preceding 24 hours, as shown by self-registering thermometers, and measuring the amount of any rain, hail, sleet, or snow that may have occurred during the same period. The observers are also expected to note at convenient times during the day the direction of the wind and the state of the weather, so as to permit statements showing the prevailing direction of the winds and the general character of each day, whether clear, partly cloudy, cloudy, rainy, etc.

For convenience in assembling, the daily reports from these observers are entered upon uniform sheets, and at the end of each month mailed to the section centers for the several States, each State having, as a rule, a separate center. Here the reports are examined, sums and means are made, and the daily temperatures, highest and lowest, and daily amounts of precipitation are recorded for publication, including a general monthly summary for each station. These data are printed monthly in considerable numbers and are widely distributed to all kinds of interests affected by weather conditions. The data collected by these cooperative observers are finally assembled into statistical form in order to set forth the climatic features of the different parts of the country. In fact, so long and efficiently have the men and women who make up this large corps of observers performed their duties that it is now possible to state with an accuracy sufficient for most practical purposes the main facts concerning the climate of any part of the country.

Many of these observers have continued their work over long periods, more than 50 years in some instances. Their services are rendered at a considerable sacrifice of time and convenience, and they are deserving of the highest praise for the conscientious discharge of a task that is of benefit to the country in general and to their several communities in particular.

WITH EXTENSION FORCES

TALK OVER PROBLEMS—BUY PUREBREDS

Dairy breeding stock in North Carolina has been improved as the result of a campaign put on by the dairy extension forces of North Carolina under the leadership of J. A. Arey, dairy extension specialist, cooperating with county agents in 11 counties. A campaign to replace scrub dairy animals with purebreds began March 1, 1925, and closed September 1. As an incentive for the agents to put forth their best efforts, Mr. Arey secured enough funds to offer a first prize of the entire expenses of an agent to the National Dairy Show held in Indianapolis, and a second prize of one-half an agent's expenses to the show.

The American Jersey Cattle Club and the American Guernsey Cattle Club, representing the breeds generally used in this section, each offered a cup to the agent whose county purchased the largest number of purebred bulls of its breed.

Eleven counties took an active part in the campaign. Data were secured by the dairy specialists as to the number of scrub bulls in a county where the agent wanted to enter the contest. The specialist visited each of these counties in turn and went with the agent to talk with owners of scrub bulls or prospective purchasers of purebred stock. This was done in Alamance, Randolph, Iredell, Rowan, Davidson, Forsyth, Mecklenberg, Union, Cleveland, Catawba, and Gaston Counties. Under the plan of visiting the prospective purchaser, talking over his dairy problems with him, and showing him the value of the purebred bull and the loss caused by the use of the scrub bull, many times a decision to obtain the purebred was made at once.

When the final report was made it showed 195 purebred animals had been placed in the 11 counties. W. Kerr Scott, agent of Alamance County, won first prize, his county purchasing 57 purebreds, most of them Jerseys; and he was given a trip to the National Dairy Show. There he was awarded the silver trophy offered by the American Jersey Cattle Club. Randolph County farmers bought 30 purebred bulls, chiefly Guernseys, giving E. S. Millsaps, jr., county agent, second place and the American Guernsey Cattle Club cup. The presentation of these cups at the banquet for county agents at the National Dairy Show was one of the features of that event.

The records turned in by each agent in the contest were supported by the

pedigrees of the animals purchased and the names and addresses of purchasers, and all reports were fully verified. A number of additional bulls were placed and not reported from counties purchasing but a small number.

In carrying on the campaign, newspapers, banks, railway development services, and other agencies cooperated. Some effective cartoons were used in the Extension Farm News published by the North Carolina extension service. These, together with articles on the subjects illustrated, were sent out to newspapers in the counties and aided materially in the results obtained.

THREE HUNDRED AT LAND-GRANT MEETING

(Continued from page 1)

College, on the relation of the land-grant colleges to the development of industries was a showing of the need and the outlook for developing research in the relatively undeveloped field of agricultural engineering.

Ten Years of Extension Work Described

The achievements of extension work in home economics during the past 10 years were presented by Miss Florence E. Ward, of the Office of Cooperative Extension Work of the department, and in short reports from the States.

Dr. C. B. Smith, Chief of the Office of Cooperative Extension Work, made a strong plea for the further development and strengthening of boys' and girls' club work.

Of particularly timely interest was the paper of H. C. Ramsower, director of extension in Ohio, on leadership in extension work and the factors which determine its efficiency.

Methods of conducting examinations in land-grant colleges was the subject of the report of the standing committee of the association on instruction in agriculture, home economics, and mechanic arts, presented by its chairman, Dr. A. C. True, of the department, which pointed out the diversity of practice now prevailing and showed the need for further study of these methods with a view to their improvement and standardization.

The progress and needs of negro land-grant colleges were very effectively presented by President J. M. Gandy, of the Virginia Normal and Industrial Institute.

Officers Elected for Next Year

The new officers elected were: President, E. A. Burnett, of Nebraska; vice president, J. I. Coulter, of North Dakota; secretary-treasurer, J. L. Hills, of Vermont; and assistant secretary, S. B. Haskell, of Massachusetts.

Executive committee.—The president of the association, ex officio; R. A. Pearson, of Iowa, chairman; J. G. Lipman, of New Jersey; F. B. Mumford, of Missouri; R. D. Hetzel, of New Hampshire; and A. F. Woods, of Maryland.

Officers of the sections.—Agriculture: J. H. Skinner, of Indiana, chairman; B. Youngblood, of Texas, vice chairman; and M. S. McDowell, of Pennsylvania, secretary. Subsection of resident teaching: R. L. Watts, of Pennsylvania, chairman, and C. A. Willson, of Tennessee, secretary. Subsection of experiment station work: Dan T. Gray, of Arkansas, chairman; W. L. Slate, jr., of Connecticut, secretary; and E. W. Allen, of Washington, D. C., recording secretary. Subsection of extension work: I. O. Schaub, of North Carolina, chairman, and J. D. Willard, of Massachusetts, secretary. Engineering: O. M. Leland, of Minnesota, chairman, and R. A. Seaton, of Kansas, secretary. Home economics: Margaret M. Justin, of Kansas, chairman, and Wylle B. McNeal, of Minnesota, secretary.

In the joint committee of the association and the department on projects and correlation of research, H. G. Knight, of West Virginia, succeeded H. L. Russell, of Wisconsin; in that on publications of research, R. W. Thatcher, of New York, succeeded J. G. Lipman, of New Jersey.

EGYPTIAN AGRICULTURAL EXHIBITION

The Royal Agricultural Society of Egypt has extended an invitation to the Government of the United States to participate in the Agricultural and Industrial Exhibition which will be held by the society in Cairo from February 20 to March 6, 1926.

In order to make the exhibition a success the Egyptian Government is making various concessions to all who will attend. All agricultural products and implements relating to agriculture imported to Egypt for the purpose of the exhibition will be exempted from all custom duties. All companies running ships between Egypt and Europe have accepted a reduction of from 50 to 75 per cent of all the expenses of the freight on such products and instruments that will be brought to Egypt for the purpose of the exhibition. In addition 70 per cent reduction in the railroad fares inside the country will be accorded for the transfer of the cereals, birds, and cattle that may be brought to the exhibition and 60 per cent for all other exhibits. Visitors will be accorded a 70 per cent reduction in railroad fares, single or return tickets, to the exhibition.

PRINCIPAL LIBRARY ACCESSIONS

AGRICULTURE

The book of rural life. Chicago, Bellows-Durham, 1925.
Justinart, R. Le Marlois agricole. Beauvais, Précot, 1924. Thèse.
Palestine economic society. Publications, no. 4. The transition from primitive to modern agriculture in Palestine, by I. Elazari-Volkani. Tel-Aviv, Palestine, 1925.

DOMESTIC ANIMALS

Blair printing company. Rabbits for food. Lamoni, Ia., 1925.
Queensland. Dept. of agriculture and stock. Pig raising in Queensland, by E. Graham and E. Quodling. Brisbane, 1924.

VETERINARY MEDICINE

Brocq-Rousseau, Denis. Le streptocoque gourmeux. Paris, 1925. Reprinted from Revue de pathologie comparée.
Festschrift zum siebzigsten geburtstage von E. Zschokke. Zürich, Orell Füßli, 1925.

DAIRYING

Thomson, G. S. Butter and cheese. London, Lockwood, 1925.

FERTILIZERS

Matthel, Adolfo. Fertilizantes calcáreos. Santiago de Chile, Imprenta universitaria, 1925.

ROADS

Association of highway officials of the north Atlantic states. Proceedings of 1st annual convention. Trenton, 1925.

HONEY

Trigo, T. J. Miel y ceras: su extracción y preparación. Madrid, Calpe, 1923.

FOOD AND COOKERY

Jackson, C. M. Effects of inanition and malnutrition upon growth and structure. Philadelphia, Blakiston, 1925.
Naylor, B. M. The use of fats in cooking. [n. p.] 1917. Thesis—Univ. of Missouri.
Thomas, G. I. The dietary adventures of Ananib Lee. Philadelphia, F. A. Davis, 1924.
Walton, Mrs. Margaret. Wartime cook book. Washington, D. C., 1918.

CHEMISTRY

Rogers, Allen. Industrial chemistry. 4th ed. New York, Van Nostrand, 1925.

STAINS

Conn, H. J. Biological stains, a handbook on the nature and uses of the dyes employed in the biological laboratory. Geneva, N. Y., Commission on standardization of biological stains, 1925.

ENTOMOLOGY

Fox, Carroll. Insects and disease of man. Philadelphia, Blakiston, 1925.

BOTANY AND FORESTRY

Craib, W. G. Florae siamensis enumeration. A list of the plants known from Siam. pt. 1. Bangkok, Bangkok times press, 1925.
Hawaiian sugar planters' association. Experiment station. Dept. of pathology. Red-stripe disease studies. Honolulu, 1925.
Maddox, R. S., and Parkins, A. E. Our trees and how they serve us. New York, Scribner's, 1925.
Repertorium annuum literaturae botanicae periodicae. t. 1-8; 1872-79. Harlemi, E. Loosjes, 1873-86.

ECONOMICS AND STATISTICS

Commercial year-book of the Soviet Union, 1925. London, G. Allen & Unwin, 1925.
Laur, E. F. Bauernpolitik. 3. Aufl. Aarau, Wirz, 1925.
Morse, G. H. How farmers can secure electric service by cooperative effort. Harrisburg, 1925. (Pennsylvania. Dept. of agriculture. Bulletin. v. 8, no. 16.)

Rutter, W. P. The geography of commerce. London, Sir I. Pitman & sons, 1925.
Sering, Max. Agrarkrisen und agrarzölle. Berlin, W. de Gruyter, 1925.
Skalweit, A. K. F. Das pachtproblem. Bonn, K. Schroeder, 1922.
Thorp, G. C. Federal departmental organization and practice. Kansas City, Vernon law book co., 1925.

ADVERTISING AND EDITING

Beckman, F. W., and Blair, Converse. A desk book of style. Ames, Ia., Collegiate press, 1925.
Poffenberger, A. T. Psychology in advertising. Chicago, A. W. Shaw, 1925.

PERIODICALS CURRENTLY RECEIVED

Hardware & implement journal [semimonthly]. v. 30, no. 19—Oct. 8, 1925—Dallas, Tex. Implement record, tractors and farm equipment [monthly]. v. 22, no. 10—Oct. 1925—San Francisco.
National farm news [weekly]. v. 1, no. 1—Oct. 24, 1925—Washington, D. C.
News for nurserymen [monthly]. v. 1, no. 7—Feb. 10, 1925—New York.
Southern hardware and implement journal [semimonthly]. v. 94, no. 4—Oct. 1, 1925—Marietta, Ga.
Die Tabakwelt; zeitschrift für handel und industrie der tabakbranche [weekly]. Jahrg. 20, no. 41—Oct. 10, 1925—Dresden.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 16-21, 1925. Copies of these publications may be obtained from the stations issuing them.

The estimation of pectin and a study of the constitution of pectin. C. F. Ahmann and H. D. Hooker. (Missouri Sta. Research Bul. 77, pp. 39, figs. 5. June, 1925.)
A comparison of Guernsey sires based on the average "mature equivalent" fat production of the daughters and their dams. C. W. Turner. (Missouri Sta. Research Bul. 79, pp. 66, figs. 8. Aug., 1925.)
The course of skeletal growth in the dairy cow. S. Brody and A. C. Ragdale. (Missouri Sta. Research Bul. 80, pp. 35, figs. 23. Sept., 1925.)
The adequacy of synthetic rations for the growth of chicks. A. G. Hogan, N. B. Guerrant, and H. L. Kempster. (Missouri Sta. Research Bul. 81, pp. 61, figs 38. Oct., 1925.)
Inspection of commercial feedstuffs, 1925. G. C. Phillips and T. O. Smith. (New Hampshire Sta. Bul. 218, pp. 60. Aug., 1925.)
Composition and maturity of corn. T. H. Hopper. (North Dakota Sta. Bul. 192, pp. 76, figs. 18. July, 1925.)
Winter rye in North Dakota. T. E. Stoa. (North Dakota Sta. Bul. 193, pp. 14, figs. 4. Aug., 1925.)
The Bimonthly Bulletin. (Ohio Sta. Bimo. Bul. vol. 10, No. 9, pp. 161-192, figs. 6. Nov.-Dec., 1925.)

Articles by Department Workers In Current Publications

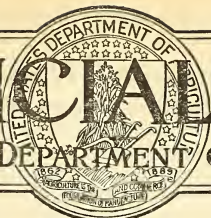
Ball, C. R. (Plant Industry). Why agronomy needs research in plant physiology. Journ. Amer. Society of Agronomy, vol. 17, pp. 661-675. November, 1925. (Symposium—Plant physiology and agronomic science.)
Bates, C. G. (Forest Service). The relative light requirements of some coniferous seedlings. Journ. of Forestry, November, 1925.
Chapin, E. A. (Animal Industry). Descriptions of new internal parasites. Proc. U. S. Nat. Mus. (2603), vol. 68, art. 2, pp. 1-4. November 14, 1925.
Collins, G. N. (Plant Industry). The "metamorphosis" of Echinera into maize. Journ. of Heredity, vol. 16, pp. 378-380. October, 1925.
Dickson, J. G. (Plant Industry). The relation of plant physiology and chemistry to the study of disease resistance in plants. Journ. Amer. Soc. of Agronomy, vol. 17, pp. 676-693. November, 1925. (Symposium—Plant physiology and agronomic science.)

Forsling, C. L. (Forest Service). Grazing in pine plantations. Journal of Forestry, November, 1925.
Goldbeck, A. T. (Public Roads). Concrete in roads (Pt. 2). Bulletin of the Permanent International Assoc. of Road Congresses, vol. 13, pp. 1091-94, September-October, 1924.
Friction tests of concrete on various sub-bases. Concrete, vol. 25, pp. 193-195. November, 1924.
Grealey, W. B. (Forest Service). The stockmen and the national forests. Saturday Evening Post, November 14, 1925.
Guthrie, J. D. (Forest Service). A forest tragedy. Forest and Stream, p. 669, November, 1925.
Haig, I. T. (Forest Service). Short cuts in measuring tree heights. Journ. of Forestry, November, 1925.
Jackson, Hartley H. T. (Biological Survey). Review of Skinner's Bears in the Yellowstone; and review of Scott's The Science of Biology. Journ. of Mammalogy, vol. 6, pp. 284-285. November, 1925.
Preliminary descriptions of seven shrews of the genus *Sorex*; and Two pigmy shrews of the genus *Microsorex*. Proceedings of the Biol. Soc. of Wash., vol. 38, pp. 125-130. November 13, 1925.
Kelley, E. F. (Public Roads). Road bridge design does not suit modern traffic needs. Power Wagon, vol. 33, pp. 24-26. November, 1924.
Kittredge, J., Jr. (Forest Service). A proposed classification of the forest types of the Lake States. Journal of Forestry, November, 1925.
Mattoon, W. R. (Forest Service). Specifications for sowing and planting southern pines. Lumber World Review, November 10, 1925.
Popene, Wilson (Plant Industry). Foreign service and agriculture. American Foreign Service Journ., vol. 11, pp. 365-369, 390. November, 1925.
Schwartz, B. (Animal Industry). Intestinal nodules in chickens due to heterakid larvae (Heterakis beramporia Lane). Philippine Journ. Sci., vol. 28, No. 1, p. 1-9. September, 1925.
Shantz, H. L. (Plant Industry). Soil moisture in relation to the growth of crop plants. Journ. Amer. Soc. Agronomy, vol. 17, pp. 705-711. November, 1925. (Symposium—Plant physiology and agronomic science.)
Sherman, Caroline B. (Agric. Economics). Spinning tests link farmer and manufacturer. Manufacturers Record, November 19, 1925.
Smith, R. W. (Plant Industry). The tillering of grain as related to yield and rainfall. Journ. Amer. Soc. Agronomy, vol. 17, pp. 717-725. November, 1925.
Tilley, F. W. and J. M. Schaffer (Animal Industry). Germicidal efficiency of coconut-oil and linseed-oil soaps and of their mixtures with cresol. Journ. of Infec. Diseases, vol. 37, No. 4, pp. 359-367. October, 1925.
Trumbower, Henry R. (Public Roads). Comparison of State registration fees for motor trucks. Power Wagon, vol. 33, pp. 14-16. November, 1924.
Economic application of motor trucks to milk transportation (Pt. 2). Power Wagon, vol. 33, pp. 40-45. November, 1924.
Woodhouse, Chase G. (Home Economics). The social sciences in the education of women. Progressive Education, vol. 2, No. 4, p. 225-230. October, November, December, 1925.

Asher Hobson, American delegate to the International Institute of Agriculture and a collaborator of the Bureau of Agricultural Economics, arrived in Washington last week. The purpose of Mr. Hobson's trip to America at this time is to arrange a program to be followed by the American delegation at the next general assembly of the International Institute at Rome in May, 1926. He will spend most of his time conferring with officials of this department and of the Department of State.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., DECEMBER 9, 1925

No. 49

FARMERS' POSITION BEST SINCE 1920

Secretary Reports on Present Problems—Large Increase in Agricultural Exports

"Improvement in the agricultural situation, which became marked in 1924, has continued in moderate degree during the present year," says Secretary Jardine in his annual report, released December 7. "Farmers have not yet reached an economic parity with other great groups of producers," he continues, "but their position is, on the whole, now the most favorable since 1920.

Increase in Foreign Production of Cotton

"Cotton production outside the United States has increased rapidly in the last two seasons, as a result, no doubt, of the stimulus of favorable economic and weather conditions rather than of concerted effort, though, there has been much of the latter. A further increase of foreign production will bear careful study, since it may lead to a competitive situation in which the advantage will rest with the producer whose costs of production are lowest or who produces cotton of a quality most in demand. Under such conditions, the shorter staples grown in this country would probably feel the competition of cotton grown with cheap labor in India, China, and elsewhere. * * *

"Our agricultural exports for the year ended June 30, 1925, were 21 per cent greater in volume than in the previous year and 26 per cent greater than the average for the five years just preceding the outbreak of the World War. The value of these exports was more than double the value of the agricultural exports of any pre-war year and greater than that of any year since 1921. * * *

"It is well to note that increased purchasing power in European countries may not always result in an increase in the demand for American farm commodi-

ties. As European agriculture recovers there will be a tendency for European countries to reduce imports of the crops that they produce. The larger crops of grain harvested in Europe this year will undoubtedly have this effect. The European market for cotton, however, will probably be maintained as long as business conditions in Europe remain good. * * *

Freight-rate Adjustment Necessary

"I believe that we must have substantial readjustments in freight rates. High freight rates constitute one of the many causes that have contributed to the depression in farm prices, especially in areas distant from the market. It is generally conceded that the entire freight-rate structure needs overhauling. Freight rates the country over have grown up in a haphazard way and as a result of all sorts of local considerations. It is my opinion that a careful study should be made of the entire freight-rate structure. On the basis of such a study it should be possible to make rate adjustments that take into account the market value of farm products as reflected over a reasonable period of years and likewise the influence of freight rates on the economic development of different regions and of the country as a whole. I realize that adequate income to the carriers must be fully reckoned with as a factor in rate making, because efficient and adequate railroads are indispensable to a profitable agriculture.

"There have been only minor changes in the freight rates on farm products in the last year. Our index showing changes in freight rates of 50 representative agricultural commodities stood on January 1 at 158.2, or 58 per cent above the 1913 level. Since then there have been no changes great enough to affect the index. * * *

"What can be done toward handling unavoidable surpluses, which are so disastrous to a stabilized agriculture, when they occur unavoidably? This is one of the major economic problems of the Nation. It is well known that small surpluses exercise a depressing effect on

(Continued on page 6)

HEMP PLANTS TO BE TRIED IN CANAL ZONE

Will Experiment to Establish Industry in Tropical America

A collection of approximately 1,400 selected plants of six of the leading varieties of abacá, or "manila hemp," has been brought by H. T. Edwards, Bureau of Plant Industry, from the Province of Davao, Philippine Islands, to the Canal Zone and planted there. This achievement is the successful culmination of two years' effort on the part of the department to establish these plants in tropical regions other than the Philippine Islands.

Philippines Produce World Supply

Abacá, or "manila hemp," is the raw material from which manila rope is manufactured. The entire world supply of abacá, with the exception of a few hundred bales, is obtained from the Philippine Islands. The production of abacá is one of the leading industries of the Philippines, and the exports of this fiber in 1924 were nearly 400,000,000 pounds. The annual consumption of abacá in the United States is about 175,000,000 pounds.

The present production of abacá is barely sufficient to meet the world demand for this fiber, and there is a tendency toward a decrease, rather than an increase. Many of the abacá growers are now planting coconuts in fields that were formerly in abacá, as coconuts require less labor than abacá and there is a shortage of agricultural labor in the abacá provinces. Two different plant diseases that have appeared during recent years have either damaged or entirely destroyed the abacá crop on limited areas. It has been apparent, in view of these conditions, that an effort should be made to establish the abacá industry in tropical regions other than the Philippine Islands. Frequent at-

tempts have been made in a number of different countries to grow abacá from seed, but the seedlings ordinarily do not come true to type and the results obtained from this work have been quite uniformly unsatisfactory. In 1923 a small shipment of abacá plants was made from Manila to the Canal Zone, and in 1924 a second shipment was made from Manila to Washington, D. C., but none of these plants survived the climatic changes and other hardships incident to the long journey.

During the early part of 1925, through the efforts of the office of traffic manager, arrangements were made for the routing of a freight steamer from the abacá-producing Province of Davao, in the southern part of the Philippine Islands, to the Canal Zone. It was believed that with this direct transportation it would be possible to successfully ship growing abacá plants from the Philippine Islands to the American Tropics.

Having made these arrangements for direct transportation during the months of July and August, 1925, this collection was loaded on the S. S. *Ethan Allen* at Malita, Davao, and brought by Mr. Edwards to the Canal Zone, arriving at Balboa on October 3.

Collection Includes Leading Varieties

This collection of plants was obtained from five different plantations and includes the leading varieties of abacá in Davao Province. In order to determine the relative value of different kinds of propagating material, and also to ascertain the best methods of packing, the shipment included seed, buds, suckers, and rhizomes. The seed was shipped both in cold storage and packed in charcoal. Approximately 500 buds, suckers, and rhizomes were planted either in soil or sphagnum, about 100 suckers and rhizomes were packed in charcoal, and between 800 and 900 rhizomes were wrapped in paper and excelsior and shipped in crates.

Of the total shipment of 1,438 plants, including buds, suckers, and rhizomes, 1,052 plants, or 73.2 per cent, were alive, and 769 plants, or 53.5 per cent, were in good condition when the shipment arrived at its destination.

Some of the plants in this shipment have been planted temporarily at a quarantine station situated about 9 miles from the town of Bocas del Toro on Columbus Island, near the eastern coast of the Republic of Panama. The remainder has been placed in the Plant Introduction Gardens at Summit, Canal Zone.

With the possible exception of an occasional plant in greenhouse collections, these plants are believed to be the only abacá plants, other than seedlings, that are now growing in tropical America.

U. S. Highway System Approved— Standard Signs on all Routes

The system of roads to be known as United States highways, selected by the Joint Board on Interstate Highways, was approved by Secretary of Agriculture Jardine on November 18. The report of the board designating 75,884 miles of road, each route of which has been given a number, and including designs for standard direction and warning signs to be erected on all routes, was recently submitted to the Secretary. This report he approved and forwarded to the American Association of State Highway Officials, then holding its annual meeting in Detroit.

This action completes the work of the board of 24 State and Federal highway officials appointed last March by Secretary Gore at the request of the Association of State Highway officials. The scope of the work as outlined in the resolution addressed to the Secretary was to undertake immediately the selection and designation of a comprehensive system of through routes and to devise a comprehensive and uniform scheme for designating the routes in such a manner as to give them a conspicuous place among the highways of the country as roads of interstate and national significance.

The 75,884 miles of road selected as United States highways includes 145 routes, those running east and west being designated by even numbers and those north and south by odd numbers.

All of these routes will be marked with the standard direction and warning signs which are of two general classes. One group, the danger and caution signs, will consist of signs of four different shapes representing as many degrees of danger. These will have a yellow background with black letters and symbols. The other group will include the standard route markers in the form of a United States shield and directional and informational signs. All signs in this group will have a white background with black letters.

The report of the joint board recommends that all of the signs, with the exception of the route marker, be used on all State highways in order to familiarize the public with the signs. The use of the United States shield as a route marker is to be restricted to United States highways and no other type of route designation is to be permitted on such roads.

The first meeting of the joint board was held at Washington last April, followed by six regional meetings at which the system was worked out for the various groups of States. The final coordi-

nation and selection were the result of a meeting of the board held at Washington in August. Special subcommittees of the board worked out the system of numbering and marking the highways after careful consideration of a great many proposed plans.

FACTS ABOUT LIGHTNING RODS

Lightning rods, with their accompanying air terminals and ground connections, when properly installed as a system on a building or other structure give nearly complete protection from lightning.

Statistics from a State such as Iowa, where thunderstorms are frequent, show that more than 95 out of each 100 buildings sustaining fire losses from lightning were unrodded. It is estimated that about 50 per cent of the farm buildings in Iowa are rodded.

Lightning rods, or more properly lightning conductors, are nearly always made of copper or heavily-galvanized iron or steel, the former generally in the form of a stranded cable, the latter of star cross section twisted into a long spiral. Copper is somewhat the better in all exposures, so far as resistance to corrosion and consequent durability are concerned. Both kinds of conductor when correctly installed give satisfactory protection.

Copper conductors should weigh not less than 3 ounces per foot; iron not less than 320 pounds per 1,000 feet, or a little over 5 ounces per foot.

Lightning conductors should be attached direct to the surface of a building without insulators. The air terminals to protect upward-pointing parts of the roof should be secured against overturning by the wind, and the ground connections extended downward to permanently moist soil, usually found at a depth of 8 or 10 feet below the surface. All joints should be permanently made and of low electrical resistance.

Louis Thiel, of San Sebastian, Guatemala, visited the Bureau of Entomology in October and left some interesting specimens of insects which he had collected. Mr. Thiel formerly lived in Washington, but for six or seven years has been living in Guatemala, and believes that it is not only a very healthful but a very delightful place in which to live.

Dr. Štěpán Soudek, assistant in the zoological institute of the College of Agriculture and Forestry at Brno, Czechoslovakia, was a recent visitor at the department. He was particularly interested in entomology and general zoology.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

NAME MOUNTAIN FOR LATE SECRETARY

Honoring the memory of the late Secretary of Agriculture, Henry C. Wallace, a mountain peak in the Absaroka National Forest, in Montana, has been named Mount Wallace by action of the United States Geographic Board. The peak, about 10,600 feet high, is in Pike County and is considered one of the gems of the Absaroka Range.

LAVA BEDS MADE NATIONAL MONUMENT

The Lava Beds National Monument, in northeastern California, has recently been created by President Coolidge, announces the department. The action of the President was taken to preserve the area in its natural condition, since it embraces many geological and archaeological features of outstanding interest. As the new national monument lies almost entirely within the Modoc National Forest it will be administered and protected by the Forest Service.

FARM PURCHASING POWER DECLINES

Although agriculture in general is in the markets this fall with a well-adjusted output of products to meet consumptive demand, the purchasing power of farm products has shown a marked decline, the department says in its December 1 report on the farm situation. "Food and fiber crops are faring relatively better in the markets than are the feed crops," the department says. "Wheat, potatoes, fruit, and cotton, for example, are selling at price levels relatively above corn, hay, oats, and barley. Many corn growers in particular are facing an unprofitable outcome on their chief money crop."

A NEW DUST EXPLOSION MACHINE

The engineers of the Bureau of Chemistry have recently developed new apparatus for exploding industrial dust by electric sparks. The new apparatus is patterned after the arrangement in terminal grain elevators. It made its initial appearance at the recent National Exposition of Chemical Industries in New York City and was well received by the representatives of many industries. The apparatus is available for demonstration at similar types of exhibitions, conventions, or other meetings of

this character, and arrangements for its use can be made with the Bureau of Chemistry. In addition to the demonstration feature, the new equipment affords a possibility of testing all types of industrial plant dusts to determine the possibility of ignition by electric sparks. This is a matter of very great importance to the managers of large grain-handling plants and manufacturing establishments in the country, since many recent explosions have occurred in what may be termed modern and improved factories.

PINK BOLLWORM QUARANTINE CHANGED

As a result of the reappearance of the pink bollworm in the region about Carlsbad, N. Mex., the quarantine regulations for the control of the movement of cotton lint and linters have been revised by the Secretary of Agriculture, the amendment having been made effective November 25. This action forbids the interstate movement of baled cotton lint and linters grown in a regulated area in which the pink bollworm has been found unless the cotton has been disinfected satisfactorily under the direction of an inspector of the department. This applies not only in a region where the present crop has been found infested but also where either of the two preceding crops was found to be infested with this insect.

OKLAHOMA GIRL WINS CONTEST

Frances Smith, 18-year-old farm girl of Blaine County, Okla., has won the distinction of being the most outstanding member in leadership in the farm boys' and girls' clubs throughout the country for 1925. As winner of the second annual national leadership contest, she was awarded the Moses Leadership Trophy, offered by Horace A. Moses, of Springfield, Mass., at the Boys' and Girls' Club Congress in session last week at the International Livestock Exposition, Chicago, Ill.

Dr. Brooke Nicholls, of Melbourne University, who is interested in the conservation of wild life in Australia, was a visitor at the department last month.

The initial purchase of land for the establishment of the Upper Mississippi River Wild Life and Fish Refuge has been approved. This land is in Houston County, Minn. The owners, Mr. and Mrs. George H. Howe, realizing the value of the refuge to the country as a whole, and to the Mississippi Valley region in particular, showed their public spirit in the terms on which they offered the land.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. We have been using some butter lately that we like very much indeed. On the carton is the name "Sweet Cream Butter." Will you please tell me what this means?

Answer. Sweet cream butter, if true to name, is butter made from fresh, sweet cream that has been pasteurized and then churned without ripening or souring. It has a mild, sweet, creamy flavor and does not develop strong flavors nearly so quickly as butter made from sour cream.

Question. How do the numbers of foreign birds and mammals imported to the United States during the past fiscal year compare with previous years?

Answer. According to records of the Biological Survey, the importation of foreign birds and mammals continues to show an increase over previous years. The number of permits issued during the fiscal year ended June 30, 1925, was 981, an increase of 240, and the number of shipments inspected increased from 232 to 239. Permits for the importation of mammals included 8,424 foxes from Canada, a great increase over former years, figures for which are as follows: 4,871 in 1924, 2,753 in 1923, 2,064 in 1922, and 1,574 in 1921. As a whole, the year showed increasing shipments of birds. Importation of game birds included 39,170 Mexican quail, 3,044 Hungarian partridges, and 93 bamboo partridges. The shipment of Mexican quail was the largest since importations from Mexico began in 1910. Cage birds, as usual, formed the principal part of the importations and consisted chiefly of canaries and parrots. The canaries numbered 310,297 and the parrots 53,964, compared with 310,379 and 45,817, respectively, last year. The total number of birds imported was 451,908, which, compared with 409,810 entered last year, shows an increase of more than 42,000.

Question. Is the extermination of the European corn borer in the United States considered feasible?

Answer. No. This pest now inhabits an area totaling approximately 40,000 square miles. It is known to attack more than 200 kinds of plants other than corn, and can subsist indefinitely on many of these. It also is present in great numbers in southern Ontario, Canada, close to the international boundary, thus furnishing a continual source of infestation for neighboring States.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

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WHAT TO DO WHEN INJURED

The United States Employees' Compensation Commission has issued the following information applicable when a civil employee of the United States sustains an injury "while in the performance of his duty":

1. Report the injury to your immediate official superior without delay. This is important to protect you in case of dispute. Also make note of the names and addresses of those witnessing the injury.

2. Then secure first-aid treatment. Do not neglect the small injuries. Sometimes blood poisoning or permanent disability or death results from neglecting a slight injury.

3. Treatment by the medical officer or dispensary of your establishment, or, if there is none, by the physician or hospital provided by the Compensation Commission to treat injuries, will cost you nothing. Your official superior has a list of such physicians and hospitals, and will give you an order for treatment.

4. Claims should be made promptly. Unless made within one year commission is without jurisdiction. The blank form for this purpose may be obtained from your official superior.

5. An injured employee is entitled to have any claim for payment of compensation or medical or hospital service on account of an injury which he believes was sustained while in the performance of duty on or after September 7, 1916, passed upon by the Compensation Commission.

CHINESE RURAL LIFE DESCRIBED

"Rural Life in China and the Stimulus of the Chinese Student to Secure an Education" was discussed by W. P. Hwang, of southeastern China, at a conference of department extension workers and others interested November 25.

"The Chinese farmer, generally speaking, is not satisfied with his economic

life," said Mr. Hwang. Perhaps the principal reason for this, Mr. Hwang feels, is because his yearly income is too little. A large number of the farmers have a gross income less than \$60, but on the whole the average income is about \$200. The largest gross income is from about \$500 to \$1,000. Even with his very small earnings the Chinese farmer carries a heavy burden of taxation. Seventy-five per cent of the yearly income of the Government is paid by the farmer.

"There are several reasons why the yearly income is so little," Mr. Hwang explained. "The Chinese farmer is conservative, with little education. He produces only enough for family use; has no up-to-date machinery and still uses hand power for the work on the farm. Even if the farmer should have a surplus of products, transportation is too difficult to supply the surplus to the market. Religion is a big item which also handicaps the farmer from increasing his pro-

THEY BEG

They beg to inquire and they beg to state;
They beg to advise and they beg to relate;
They beg to observe and they beg to mention;

They beg to call your kind attention;
They beg to remark and they beg to remind;

They beg to inform and you'll herein find;
They beg to announce and they beg to intrude;

They beg to explain and they beg to include;

They beg to acknowledge and they beg to reply;

They beg, and they beg, and they beg, oh why?

They reluctantly beg for a moment of time;

They beg to submit you an offer sublime
"Till I wish I could put the annoying array

Of beggars on horseback and send them away.

—Carolyn Wells.

duction. He knows nothing about scientific farming, and when he has a failure believes the god controlling the crops has punished him."

Questioned concerning the social life of Chinese farm people, Mr. Hwang said that sometimes after the harvest in November and on national holidays they set up a temporary theater for one week. Generally speaking, however, they worry too much about their crops and have little amusement or recreation.

Referring to the opportunities for education of the rural people, Mr. Hwang said that in the old days education was only for the high officials. In the rural communities they now provide schools for children from 4 to 6 years of age, but have no higher schools. The students attending the agricultural colleges are mostly from the city. After

they graduate the majority of them teach in the city instead of going into the country to teach the farmers improved methods of farming. This is probably due to the fact that the Chinese farmer is so traditional and conservative that he doesn't want to change his practices, and therefore won't listen to the agricultural-college graduate's advice.

Another handicap to exchange of farming ideas and practices, Mr. Hwang said, is the fact that the language spoken by the people in the different provinces of China is not the same and they can not understand one another. The spoken and written languages, although conveying the same idea, are entirely different.

The farmers do not raise much livestock. In some sections of the country they have pigs, chickens, and sheep, but no dairy cows, because the Chinese people have not learned to drink milk.

Mr. Hwang was born and reared in rural China, is a graduate of Southeast China University and of the agricultural college of North Carolina. He has been in this country about four years, studying for some time recently at Columbia University.

H. C. WALLACE SCHOLARSHIP AWARDED

The four-year scholarship in Lincoln Memorial University created by Federal Post, No. 824, Veterans of Foreign Wars, under the name of the Henry C. Wallace Scholarship, has just been awarded to Miss Arietta Bolic, 17 years of age, daughter of Pvt. Perry William Bolic, of Cullasaja, N. C.

Doctor Matthers, president of the University, in advising Federal Post, No. 824, of the award, states in part:

"Having been privileged to know Henry C. Wallace, I feel that this young lady is worthy of a scholarship bearing the name of a man whom I knew to be courageous, democratic, and thoroughly American."

It is the hope of this Federal post to make the establishment of such scholarships a regular part of its permanent program, and it is believed that it will have in this connection the hearty cooperation of the employees of the department, 500 of whom served in the World War.

A CORRECTION

In the last issue of THE OFFICIAL RECORD an error was made in reporting the enrollment of department employees in Washington in the last Red Cross roll call. The announcement should have stated that the amount received was \$720.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

DEAD FORESTS ON NATIONAL PARKS

Do you know that there are 30,000 acres of dead forests in the Yosemite National Park? For 10 miles on either side of the Tioga Road, the main highway across the park from west to east, the tourist is in sight of thousands upon thousands of trees with naked branches and bare trunks which are but a ghostly reminder of the green forests which covered the same area some 20 years ago.

These dead forests are composed of lodgepole pine of fairly mature age. The transformation from a living to a dead forest is due to the activities of two insects, one a defoliator, the other a bark beetle. Lodgepole pine in the high Sierra region will stand without conspicuous decay for many years after being killed by fire, insects, or other agencies; hence the depredations of these insects are much more impressive than if the killed trees deteriorated rapidly and were soon blown over.

The defoliator is known as a needle miner, because it is so tiny that the larvæ live under the outer skin of the needle-shaped leaves of the lodgepole pine. The mining process in the leaves causes them to fall, depriving the tree of foliage. As a result the tree loses much of its vigor, and growth is materially reduced, so that it falls an easy prey to its more serious enemy, the bark beetle.

The bark beetle in this case is the mountain pine beetle, a common enemy to several species of pines in the West. It attacks the layer of tissue between the bark and wood, upon which the tree depends for its supply of sap. When this supply is cut off by insect work the very rapid dying of the tree results.

The existence of the needle miner in the remote areas of the Yosemite National Park was known to entomologists as early as 1904. Little was known of its habits, however, until 1914, when the Bureau of Entomology took up a systematic study of the epidemic. The insect was found to be a species new to science. Its life history presented an extremely complicated problem, and it was not until 1918 that all of the details were finally uncovered. It was found that, differing from nearly all other defoliators previously studied, this species does not complete its life cycle from egg to adult in one season but requires approximately 25 months. On

each alternate year, as in 1913, 1915, and 1917, a heavy flight of moths occurs. This flight period persists for only a few weeks, and during the subsequent winter and spring the young larvæ do practically no damage and are extremely difficult to find. The following summer only the larvæ are in evidence, and it is not until the second summer that the moths again appear.

Since 1922 this epidemic of the defoliator has been subsiding and during 1925, the year when flight should have occurred, practically no moths were observed. It now seems evident that the disappearance of the needle miner will be followed by a subsidence of the bark beetle which has been breeding in the weakened trees. Such an event would be highly desirable, as much of the fine lodgepole forests of the national park have already been destroyed by the combined attacks of these insects.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Missouri.—E. A. Bierbaum, county agent of Pulaski County, Ill., has been appointed specialist in horticulture on the extension staff of the College of Agriculture. He was formerly extension specialist of the Missouri Fruit Experiment Station at Mountain Grove and is well known to many of the prominent fruit growers of the State.

South Dakota.—George Starring, rural organization specialist, has resigned, to accept the position of secretary of the South Dakota Bankers' Association.

FORTHCOMING EVENTS

The annual extension conference at South Dakota State College is scheduled for December 16, 17, and 18. The tentative program indicates that it will be an exceptionally interesting one. Dr. G. F. Warren, of Cornell University, who has been secured as the principal speaker, has announced the following as the subjects of his talk: 1. General price levels; 2. Prices of farm products; 3. Adjusting agriculture to present conditions; 4. How to best use economic data in extension work. The second annual junior short course for farm boys and girls will be held at the State college December 8, 9, 10, and 11. The instructional program will be of a practical nature and the work for the boys will consist largely of studies in dairying, animal husbandry, soils, crops, and horticulture. The girls' program will include studies of food preparation, clothing design, and homemaking. A big feature of the week will be the Little Interna-

tional Livestock and Grain Show, at which grain crops, vegetables, and fruits will be exhibited which have been taken from the students' own farms. There will also be a student contest in the fitting and showing of livestock and poultry.

IMPORTANT DEVELOPMENTS

A very interesting achievement day program was recently given by the boys and girls' clubs of Polk County, Nebr. Fourteen of the sixteen organized clubs in the county were present and each one took a definite part in the program which showed the activities of a club from the time of organization until work was completed. The first club showed organization; the second, initiation; the third, parliamentary practice, and so on. Sixteen girls in one club presented a drill in which they personified the emblem of club work—the four-leafed clover with a capital H in each leaf. The last skit on the program showed the three strongest enemies of club work—prejudice, ignorance, and selfishness—but there was a happy ending when the good fairies of club work routed them off the stage. Polk County has reason to be proud of its club work, as it produced the champion home economics demonstration team of 1924 and the champion livestock demonstration and the champion livestock judging teams of 1925.

Radio lectures over the new broadcasting station of Oregon Agricultural College at Corvallis began in October. Operation of the station is under the direction of Prof. Jacob Jordan, of the department of physics, who designed and built the station during the past summer. The programs will be prepared under the auspices of the extension service with W. L. Kaddery, in charge of information, as director of programs. About 200 lectures will be included in the programs from the new station during this college year. Several series have been planned, each to be practically the equivalent of a correspondence course in the subject covered. Programs will be given regularly three nights each week, beginning at 7:30: Monday night, devoted to agricultural material; Wednesday, with programs especially prepared on homemaking subjects; and Friday, reserved for more varied subjects, including lectures in the many fields of engineering, the fundamental sciences, forestry, English, history, physical education, economics and sociology, political science and similar topics. Special features are also scheduled for Friday nights. Play-by-play reports of major campus athletic contests are to be broadcast, as are commencement exercises and similar events.

FARMERS' POSITION BEST SINCE 1920

(Continued from page 1)

prices altogether disproportionate to their amount. Measures to regulate the movement of surpluses into consumption so that unnecessary price fluctuations can be avoided and speculative hazards lessened are urgently needed.

"It is to the interest of the entire community that agriculture should not be periodically depressed by overproduction and low prices. Business, indeed, has almost an equal interest with agriculture in preventing undue fluctuations in farm-commodity prices. Whatever benefit low farm-commodity prices may temporarily seem to bestow on the consumer are eventually offset by a movement the other way. Stabilized production and marketing of agricultural products are clearly in the public interest.

"There are therefore manifestly two general avenues of approach to the surplus problem. One is through better management of production, and the other through marketing and distribution. In the latter field we have three major issues, the problems of storage of a given harvest pending consumption during the year or season, and the problem of storage for the carry-over. We have in all storage questions immediately the problem of credit. Beyond these two questions of storage and credit we have the third problem, and that is orderly control of the stream of supplies to the consumer. We can solve the first two of these issues by better provisions of facilities, but we can only solve the third by collective action. * * *

"A measure of the progress already achieved in this latter direction is the fact, mentioned elsewhere in this report, that nearly one-fifth of our agricultural business, or \$2,500,000,000 worth, was done this year through farmers' business organizations. * * *

Upholds Plant Quarantine Act

"The plant quarantine act of 1912 is undoubtedly one of the most useful laws ever enacted by Congress in the interest of American agriculture and forestry. In view of certain misunderstandings with respect to some of the many features of control being exercised under this act, it seems desirable to present a brief statement of its purpose and the broad protective powers under it which are being exercised. * * *

"The need for taking measures—drastic if necessary—to protect American agriculture from the devastation of additional foreign pests and diseases is universally admitted. It follows that some competent body must make the determinations with respect to the necessary

restrictions and safeguards. Congress has placed that responsibility on the United States Department of Agriculture. Certainly this department, with its hundreds of specialists in the fields of plant production, insect enemies, and diseases of plants, would seem to be the proper agency for making such decisions.

"Before adopting the present general policy of restricting the entry of foreign plants to horticultural, educational, and scientific needs, the department gave seven years' trial to the system of unlimited entry under foreign inspection and certification, with such reexamination of the imported material as was possible at destination in the United States. That this system was fairly tried out there is no question, and its failure was clearly indicated by the startling record of pest interceptions with such imported material, and still more by the realization that such interceptions, under the conditions of reinspection possible in this country, necessarily represented only a small part of what was actually coming in.

"Under the policy of restricted entry no plant or class of plants is embargoed, but any plant may be brought in for any of the essential purposes indicated above, under the safer inspection and control methods which are possible with limited imports. The importations of restricted or so-called 'embargoed' plants during the six-year period, 1919 to 1925, totaled nearly 50,000,000 plants, and, as indicating the liberality of entry under these provisions, it may be noted, for example, that there have been thus imported 80,000 rose plants, representing over 2,000 different varieties, 1,000 different varieties of gladioli, and about 1,700 different dahlias. * * *

Outlines Policy of Grazing Leases

"During the last year the viewpoint has been expressed by representatives of the range-livestock industry that the status of grazing as a permanent and desirable use of the national forests should be defined by legislation and not left, as at present, to the exclusive control of the Department of Agriculture through administrative regulations. * * *

"Although Congress has never enacted legislation dealing with grazing in the national forests, the department has always recognized forage as one of their important resources. Under its general authority 'to regulate the occupancy and use of the national forests' a complete scheme of grazing administration has been built up by administrative regulation. * * *

"The department has sought the fairest possible distribution of grazing privileges, in which the old user has been protected as far as consistent, with

affording reasonable opportunity for the settler and small rancher to establish his home and develop his means of livelihood. The principle laid down by Secretary James Wilson in 1905 for the use of the range and other resources in the national forests was that of the greatest good to the greatest number in the long run. It was felt that the settler who was engaged in developing from raw land a new farm unit contributing to the food supply and wealth of the Nation, and who in this process needed the related use of national-forest grazing resources, should be granted such use even though that necessitated a reduction in the privileges of the established occupants of the range. As a result of this policy the number of range users has increased since 1909 by nearly 25 per cent and the national-forest ranges now contribute to the maintenance of approximately 4,500,000 acres of cultivated land and 22,000,000 acres of grazing land in private ownership.

"This policy has, of course, necessitated some reductions in the size of the herds grazed by old users in various localities; but that has been felt to be in line with the economic progress of the Western States. At the same time a system of preferences in the use of the national-forest ranges has been put into effect so that the established users of the range would be protected from arbitrary or drastic reductions and the whole industry given the greatest possible stability in its relationship to the national forests. In fact, the use of the national-forest ranges during the last 15 years has been more stable than the tenure of any other range areas in the West with the exception of a few of the very large private ranches. * * *

Federal-Aid Roads Completed

"A greater mileage of Federal-aid roads was completed during the fiscal year 1925 than in any previous year. The aggregate length of the projects completed was 11,829 miles, and the largest previous year's record was less than 10,000 miles. This addition brings the mileage completed since 1917 up to a total of 46,486.

"In addition to this completed mileage, which includes only the projects that are entirely completed, there were under construction at the close of the fiscal year other projects the aggregate length of which was 12,463 miles. A very considerable portion of this mileage is actually completed, but will not be so reported until the projects in which it is included are completed in their entirety.

"The total cost of the projects completed during the year was approximately \$243,000,000, of which approximately \$111,000,000, or more than 45 per cent, was paid by the Federal Government. The cost of the entire mileage completed from 1917 to date has been more than \$845,000,000, and the Federal Government has paid of this total approximately \$373,000,000."

BRIEF REVIEWS OF NEW BULLETINS

Production of Acala cotton in the San Joaquin Valley of California. By Wofford B. Camp, associate agronomist, crop acclimatization adaptation investigations, Bureau of Plant Industry. Pp. 24, figs. 15. November, 1925. (Department Circular 357.) Price, 10 cents.

The rapidly expanding cotton-growing industry of the San Joaquin Valley, Calif., owes much of its success to the production of a single variety, the Acala. The Acala is an early, productive, medium-staple Upland cotton, with large bolls which open widely, making them easy to pick; it produces high average yields and is unusually resistant to adverse seasons or poor cultural conditions. This circular describes cultural methods which have proved well adapted to the production of cotton under conditions prevailing in the San Joaquin Valley, and includes also information relative to ginning.

ADDITIONAL PUBLICATIONS

Standard Specifications for Corrugated Metal Pipe Culverts. Adopted by the American Association of State Highway Officials and Approved by the Secretary of Agriculture for Use in Connection with Federal-aid Road Work. Pp. 6. November, 1925. (Department Circular 331.) Price, 5 cents.

Journal of Agricultural Research. Vol. 31, No. 3, August 1, 1925. Contents: Vitamin A in Beef Pork and Lamb. (A-82.) By Ralph Hoagland and George G. Snider.—The Relationship Between the Weight of Eggs and the Weight of Chicks According to Sex. (A-97.) By M. A. Jull and J. P. Quinn.—Tests of Deep-cell Tissue Pumps. (D-17.) By E. L. Blythe.—Colloidal Silica and the Efficiency of Phosphates. (H-11.) By P. J. Gile and J. G. Smith.—Best Time for Sowing Silver Fir in the Nursery. (F-21.) By J. V. Hoffman.—Girdling as a Means of Removing Undesirable Tree Species in the Western White Pine Type. (F-24.) By Donald R. Brewster and Julius A. Larsen.—Comparative Susceptibility of Onion Varieties and of Species of Allium to *Oncocytis cepula*. (M-88-11.) By P. J. Anderson.—The Nitrogen Constitution of Celery Plants in Health and Disease. (Mich.-15.) By C. H. Coons and L. J. Klotz. Pp. 201-300, 11 Price, 20 cents.

Vol. 31, No. 4, August 15, 1925. Contents: Steam and Chemical Soil Disinfection with Spores. Beginning with Potato Wart. (O-4.) By N. Rex Hunt, F. G. O'Donnell, and Rush P. Marshall.—Nutritive Value of Wheat: I.—Effect of Variation of Sodium in a Wheat Ration. (Wash.-1.) By George A. Olson and J. L. St. John.—An Approximate Method of Calculating Coefficients of Inbreeding and Relationship from Livestock Pedigrees. (A-95.) By Sewall Wright and Hugh C. McPhee.—Further Studies in Isoelectric Points for Plant Tissue. (Mo-8.) By William J. Robbins and Irl T. Scott. Pp. 301-399, 20 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semimonthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations

during the week of November 23-28, 1925. Copies of these publications may be obtained from the stations issuing them.

Preparations of beagari for finishing yearling steers. R. H. Williams and C. A. Smith. (Arizona Sta. Bul. 197, pp. 407-436, pl. 1, figs. 9. (June, 1925.)

Cattle feeding in Arizona. E. B. Stanley and E. L. Scott. (Arizona Sta. Bul. 108, pp. 41, pl. 1, figs. 13. July, 1925.)

Crop sequences at Davis. J. W. Gilmore. (California Sta. Bul. 393, pp. 36, figs. 8. October, 1925.)

I. Cereal hay production in California. G. W. Hendry. II. Feeding trials with cereal hays. F. W. Woll. (California Sta. Bul. 394, pp. 71, figs. 17. October, 1925.)

The mat bean (*Phaseolus acutifolius*). P. B. Kennedy and B. A. Madson. (California Sta. Bul. 396, pp. 33, figs. 7. November, 1925.)

Poultry breeding records. W. A. Lippincott. (California Sta. Circ. 299, pp. 31, figs. 23. October, 1925.)

The effect of feeding cultures of *Bacillus acidophilus*, lactose, dry skim-milk or whole milk on the hydrogen-ion concentration of the contents of the ceca of chickens. J. R. Beach. The influence of feeding lactose or dry skim-milk on artificial infection of chicks with *Escherichia avium*. J. R. Beach and D. E. Davis. (Illigard [California Sta.], vol. 1, No. 8, pp. 145-181. October, 1925.)

Secondary sex characters in *Asparagus officinalis* L. W. W. Robbins and H. A. Jones. (Illigard [California Sta.], vol. 1, No. 9, pp. 183-202, figs. 6. November, 1925.)

Johnson County soils. R. S. Smith, E. A. Norton, E. E. De Turk, F. C. Bauer, and L. H. Smith. (Illinois Sta. Soil Rpt. 30, pp. 46, pl. 1, figs. 7. June, 1925.)

Farming with bluegrass. J. B. Hutson and E. L. Langford. (Kentucky Sta. Bul. 259, pp. 59-98, figs. 4. July, 1925.)

Sources of animal protein for laying hens. J. H. Martin. (Kentucky Sta. Bul. 260, pp. 99-132, figs. 9. August, 1925.)

The nutrient requirements of the strawberry. H. E. Lorce. (Michigan Sta. Tech. Bul. 70, pp. 29. October, 1925.)

Potato spraying and dusting experiments in Michigan. J. E. Kotila and G. H. Coons. (Michigan Sta. Tech. Bul. 72, pp. 15, figs. 7. October, 1925.)

Composition of creamery butter and its control. C. H. Eccles, J. R. Keithley, and W. B. Combs. (Minnesota Sta. Bul. 223, pp. 30. (September, 1925.)

Selection, care, and management of breeding stock. C. S. Platt. (New Jersey Sta. Hints to Poultrymen, vol. 14, No. 2, pp. 4, fig. 1. November, 1925.)

BUGS SCREEN WELL IN MOVIES

Evidence that all "movie bugs" are not found among audiences in the motion-picture theaters is brought out by the educational film productions of the department which include more than 20 pictures actually featuring "bugs" themselves.

In most instances, however, the insects are pictured as villains, and included in the reels is the department's advice on annihilating them. Some of the insects which have risen to the dignity of full-fledged "movie actors" in department films are the cotton boll weevil, pink bollworm, Mexican bean beetle, Japanese beetle, powder post beetle, pine sawyer, pinhole borer, cattle fever tick, European corn borer, alfalfa weevil, stable fly, horn fly, screw worm, bedbug, chigger, fowl tick, poultry louse, gypsy moth, brown-tail moth, tree tent cater-

pillar, cockroach, grasshopper, "17-year locust" or periodical cicada, and the western pine beetle.

The Government film directors report that most of the bugs "screen well"—on the movie screen as well as on the window screen. However, each insect offers its own problem to the camera. The clothes moth shuns light, making photography difficult. The ox warble grub must be squeezed from its refuge in a cow's back to be "shot," and the warble fly must be chloroformed before it will submit to having its picture made. On the other hand, many of the "bugs" are overbold and make free with the camera.

PHILUSDA CLUB

A regular meeting of the Philusda Club was held at the Philadelphia office of the Weather Bureau on November 18. George S. Bliss, in charge of the Weather Bureau office there, gave an interesting talk, illustrated with lantern slides, showing how weather maps are prepared and how predictions are made from these maps. He also showed typical weather maps at the time certain unusual local weather conditions existed, and the paths of certain noted storms which continued for several days. At the conclusion of this talk the annual election of officers was held, at which the former officers—George S. Bliss, Weather Bureau, and C. S. Brinton, Bureau of Chemistry—were reelected as chairman and secretary, respectively.

KANSAS CITY U. S. D. A. CLUB

The Kansas City U. S. D. A. Club, at its regular monthly meeting on Friday, November 20, had as its guest James C. Irving, research chemist for the Kansas City Cold Storage & Warehouse Co. Mr. Irving gave a very interesting and instructive talk on cold storage of food products, mentioning some of the problems with which his company is confronted, and pointed out the value of chemical research work in connection with the preservation of food products in cold storage.

Dr. Hugo Weigold, director of the natural history department of the Museum at Hanover, Germany, was a visitor at the department during one week last month. Doctor Weigold is keenly interested in biological work, including its economic bearings. He is also a student of bird migration, having banded many birds at Helgoland and published several reports on his work.

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CIVIL SERVICE ANNOUNCEMENTS

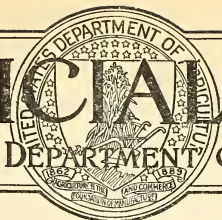
Chief of radio service, \$3,800. Vacancies in the office of the Secretary, Department of Agriculture, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 5, 1926.

Agricultural writer, \$2,700. A vacancy in the office of the Secretary, Department of Agriculture, and vacancies in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made up to \$3,300 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close December 29, 1925.

Dr. H. F. Kern, of the Bureau of Animal Industry, leaves to-morrow, December 10, on a two years' furlough from the department to accept a position as veterinarian to the San Salvador Government. The latter Government is establishing a new experiment station at San Miguel, and Doctor Kern will be in charge of the veterinary work in connection with it. Doctor Kern came to the department two and a half years ago, and previous to that time had been a veterinarian in the Philippine Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 50

STOCK SHOW VISITORS LIKED U. S. EXHIBIT

Large Demand for Bulletins and Building Plans—Set-ups Will Be Sent to Fairs

The department attended the International Livestock Exposition last week at Chicago in force. Although the international is primarily a livestock show, livestock touches every other branch of the agricultural industry and anything having to do with this important phase of agriculture is of interest and concern to many bureaus and divisions of the department other than those dealing directly with the improvement of livestock. Representatives of the Bureau of Agriculture Economics, the Bureau of Dairying, the Bureau of Plant Industry, the Office of Cooperative Extension Work, and the office of exhibits, to the number of 75 or more were there at some time during the exposition which was a week of agricultural conventions of all kinds. It was to many of these gatherings that department representatives were called.

B. A. I. Exhibit Attracted Many

The most visible contribution to the international by the department was staged by the office of exhibits under the direction of the animal husbandry division. It was a sizable display of agricultural information, advice, and inspiration, occupying an entire room at one side of the big arena and covering a floor space 60 by 150 feet. One feature of the exhibit which gave material evidence of the interest of the 100,000 or more visitors in agricultural problems was the rapidity with which they exhausted the supply of farmers' bulletins which were handed out to those requesting them. More than 35,000 bulletins, covering 100 subjects, were on hand for distribution. Practically the entire supply was exhausted before the week was ended. More than 200 visitors left their names and addresses for blue prints of farm buildings, which will be mailed as soon as possible.

Considerable improvement in ways and means of presenting agricultural infor-

mation through the "exhibit method" has been made in the last few years. The department exhibit has grown from a mere handful of charts, colored photographs, and lantern slides shown a few years ago to a whole show in itself in which large posters, motion pictures, and live animals serve to arrest the attention of the passers-by. No little skill is required to present a volume of information in a brief, read-as-you-run form, but it was done in this exhibit, if one may judge from the many favorable comments.

Department Film Drew Crowd

Outstanding problems, together with suggestions for their solution, were presented in feature exhibits on horses, swine, cattle, sheep, and sanitation methods. The "Horse mart" attracted attention by reason of the six representative types of horses shown. Legends over their heads advised the visitor of the market type of the animal, the demand on the market, and its value. The motion picture, *The Horse in Motion*, drew crowds throughout the week.

A large poster display dramatized the story of "the little pig that went to market" and pointed out many of the reasons why other little pigs fail to get to market. Two hundred of them start on the journey across the bridge to market size. Many of them fall through the holes in the bridge which are labeled disease, careless handling, and other names which are common causes of pig mortality. Appropriate legends explain that out of the 200 pigs that started, only 112 reached the market. Many more could have reached the market had the holes in the bridge been patched by the methods of feeding and management which are known to give better results.

The exhibit will be retained in its entirety for use at State fairs and various other livestock shows next fall. Already many applications for it have been made to J. W. Hixox, chief of the office of exhibits, who will endeavor to send it to as many places as possible within the next year. It is planned to set up the exhibit in some department building soon so that all department workers in Washington may have an opportunity of seeing it.

MANY FARM BILLS BEFORE NEW CONGRESS

Include Credit, Crop Insurance, Cooperation, Tariff, Cotton Reports, and Futures

Numerous bills relating to agriculture were introduced at the first session of the Sixty-ninth Congress on December 7, among them several proposing various relief measures.

Representative Sinclair, of North Dakota, introduced a bill (H. R. 329) to provide for the purchase and sale of farm products; another (H. R. 328) to stabilize the prices of certain farm products; and a resolution (H. Con. Res. 1) proposing the creation of a joint commission to investigate the subject of crop insurance. Another resolution (H. J. Res. 36) introduced by Representative Sinclair would authorize the President to call an international conference of representatives of agriculture and farmers' organizations.

Representative Christopherson, of South Dakota, put in a bill (H. R. 131) to create an American standardization commission to provide for stabilizing the prices of certain farm products. A resolution (H. J. Res. 35) was introduced by Representative Romjue, of Missouri, calling on the President to reduce the tariff on materials and commodities generally used in farm production.

Would Require Building of Warehouses

A bill (H. R. 332) requiring the United States Government, in cooperation with State governments and with farmers' cooperative associations, to build storage warehouses was introduced by Representative Swank, of Oklahoma.

Appointment of a commission to investigate and report on a general system for the cooperative marketing of all farm products is proposed in a bill (H. R. 236) sponsored by Representative Sinclair, of North Dakota.

Repeal of an act of Congress authorizing the Department of Agriculture to

issue semimonthly cotton reports simultaneously with the ginning reports of the Department of Commerce is provided for in a bill (H. R. 118) introduced by Representative Brand, of Georgia.

The establishment of a dairying and livestock experiment station at Mandan, N. Dak., and another at Paragould, Ark., is proposed in bills (H. R. 238 and H. R. 454) introduced respectively by Representative Sinclair, of North Dakota, and Representative Driver, of Arkansas. Representative Burtness, of North Dakota, introduced a bill (H. R. 285) requiring the labeling of flour in interstate and foreign commerce.

Senator Curtis, of Kansas, on December 8 introduced a bill (S. 290) "to place the agricultural industry on a sound commercial basis and to encourage agricultural cooperative associations." Senator Caraway, of Arkansas, introduced a bill (S. 454) to prevent the sale of cotton and grain in futures markets. Senator Ferris, of Michigan, is the author of a bill (S. 616) to extend the rediscount privileges of the Federal reserve system to farm loan bonds. Senator Lenroot, of Wisconsin, introduced bills (S. 666 and S. 672) to abolish the United States Tariff Commission and the Federal Trade Commission.

Two Bills Relate to Cotton Reports

Representative Garber, of Oklahoma, proposed a bill (H. R. 3752) to provide for a tariff on cattle hides. Representative Aswell of Louisiana introduced a bill (H. R. 3754) to provide for the preparation and issuance of cotton reports by the Secretary of Agriculture; Representative Black, of Texas, introduced a bill (H. R. 3764) to amend the existing law authorizing the Director of the Census to collect and publish cotton statistics; and Representative Winter, of Wyoming, introduced a bill (H. R. 337) to provide for the enlargement of the winter elk reserve in Wyoming.

Representative Vaile, of Colorado, is the author of a bill (H. R. 3987) to amend the Federal farm loan act so that farmers may borrow money from the Federal land banks for indebtedness due by them when incurred for other than agricultural purposes.

A resolution (S. Res. 60) submitted by Senator Cameron, of Arizona, provides for the investigation by the Federal Trade Commission of certain alleged violations of the antitrust laws in connection with wheat, flour, and bread.

The American Institute of Cooperation will hold its second session at the University of Minnesota during the summer of 1926. This decision was reached at a meeting of the general assembly and the board of directors of the institute held at Chicago, December 2.

Western States Hold Annual Extension Conference

The annual Western States extension conference, held recently at Washington State College, Pullman, Wash., was a continuation of the effort begun three years ago to develop progressively a regional extension program for the 11 Western States: Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming.

This year the conference reviewed the phases of the program previously adopted and noted progress in subjects covered in previous years, range livestock, human nutrition, dairying, and farm crops. The new subject introduced this year was home management. This is a subject of great importance to the Western States because of the speculative attitude that often obtains toward the land. It is felt that a satisfied, contented farm woman in a comfortable, convenient country home will be a good influence in developing home instincts and attachment to place and so make for more stable conditions.

The regional home management committee brought in reports reviewing economic and social conditions in the farming districts in the West and recommended that major emphasis in home management be given during 1926-27 to kitchen improvement, installation of water and sewage-disposal systems, improvements in home furnishing which make for comfort and attractiveness, home accounts and budgets, and house planning and remodeling. On the committee were S. B. Nelson, extension director, Washington, chairman; A. E. Bowman, extension director, Wyoming; Madge J. Reese, field agent, western division, Office of Cooperative Extension Work; Maud Wilson, assistant director of extension, Washington; and W. A. Lloyd, in charge, western division, Office of Cooperative Extension work. The conference developed in detail the means and agencies to be used in carrying out these plans. Louise Stanley, Chief, Bureau of Home Economics, attended the conference and explained the more recent development of interest in the fields of home management and nutrition.

Reno, Nev., was selected for the next regional conference to be held in July, 1927. Poultry and clothing will be the topics for this conference. In the meantime the Bureau of Agricultural Economics has been requested by the program committee to make a study of the poultry and dairy enterprises in the Western States and to report to the next Western States' conference.

The program committee for 1927 consists of Cecil Creel, extension director,

Nevada, chairman; William Peterson, extension director, Utah; and Madge J. Reese and W. A. Lloyd, both of the department. To meet conditions caused by changes in personnel within the State extension services the regional standing committees were reorganized. These will be listed later.

Others in attendance at the conference from the department were C. B. Smith, Chief, Office of Cooperative Extension Work, and Eugene Merritt, also of that office; J. H. McClain, Bureau of Dairying; C. V. Whalin, Bureau of Agricultural Economics; and M. L. Wilson and J. K. Wallace, Bureau of Agricultural Economics.

CHRYSANTHEMUM PRODUCTION DESCRIBED

During the annual chrysanthemum show of the department, J. Wise Byrnes, who is in charge of the experimental gardens and grounds, is often besieged with questions as to how the wonderful blooms of so many varieties are produced. Mr. Byrnes describes the work as follows:

In order to improve the color or size of the flower, or the growth of the plant, the flowers are crossbred. The Japanese varieties are prepared for cross pollination by clipping the petals of the seed parent close in order to expose the pistils. By means of a camel's-hair brush pollen is taken from the flower desired to cross with the parent, and put on the pistils of the seed parent. When the pollen is ripe it will cling to the brush enough to be transferred in this manner.

Cuttings run true to the plant from which taken, so that when it is desired to reproduce a certain variety the propagation is done by means of these cuttings. Pompoms are especially easy to reproduce. After the chrysanthemum show is over the flower stems are cut within 2 or 3 inches of the soil to encourage growth of the stools which furnish cuttings for the next season. In January these cuttings are put in a sand bed to root. The next year these slips have grown into plants often 6 feet high.

No varieties produced by the department are sold to the florist trade, but slips are given to any florists who wish to try them out. This year two florists in Washington, one in New Jersey, and another in Indiana requested cuttings of some of the newly developed varieties.

A new departure this year was in the form of two specimen plants of Japanese varieties which had been allowed to grow without trimming. The result was two beautiful, rounded shrubs about 3 feet high, one bearing 500, the other 200 good-sized blossoms.

A DIGEST OF THE NEWS

Brief Paragraphs Boiled Down From
Material Issued by the Department
During the Past Week

PROGRESS IN FORESTRY ENCOURAGING

The most significant change in the Nation's forest situation within recent years is the degree to which timber growing has become a matter of general interest and understanding, declares Chief Forester Greeley in his annual report to the Secretary of Agriculture, made public to-day. "National progress in forestry will from now on be measured, most of all, by the rate at which timber growing becomes part of everyday land usage," according to the report, which goes on to say that abundant evidence has been found of the interest of forest industries in the possibility of growing, as a business, successive crops of timber on privately owned land.

CROP BOARD CHANGES RELEASE DATES

The following changes in release dates of Government crop reports have been announced by the United States Crop Reporting Board. The crop report scheduled for release on Wednesday, December 16, at 4 p. m., will be released on Tuesday, December 22, at 4 p. m., and the report scheduled for release on Friday, December 18, at 3 p. m., will be released instead on Thursday, December 24, at 12 o'clock noon. The December 22 report will cover acreage, production, and value, December 1, of some 35 crops. The December 24 report will cover acreage and condition of fall-sown winter wheat and rye for harvest in 1926.

HEARING ON PINE DISEASE IN OREGON

Because of the appearance in Oregon of the white-pine blister rust, a dangerous plant disease, the Secretary of Agriculture has given notice of a hearing to be held at Washington, January 8, in the offices of the Federal Horticultural Board. It is proposed to prohibit the movement from Oregon into other States and Territories of all five-leaved pines and currant and gooseberry plants, the latter being the intermediate host plants necessary in carrying the disease from one pine tree to another. It is expected that with State cooperation it will be possible to limit the restrictions of the quarantine to the infected western portion of the State. All persons interested may appear and be heard either in person or by attorney at this hearing, which will begin at 10 a. m.

TEST PAPER FOR WRAPPING FRUIT

Practical tests to determine suitable papers for wrapping fruits and vegetables conducted by the Bureau of Chemistry show that paper for wrapping apples, oranges, lemons, pears, and tomatoes should weigh 10 or 12 pounds per ream of 500 sheets 24 by 36 inches in size, and that it should have a bursting strength of not less than 6 points. It should have sufficient flexibility and strength to withstand the vigorous rapid twist given the paper in wrapping and to give a smooth, attractive appearance to the wrapped fruit.

Road Transport in South America Described at Highway Meeting

That more efficient transportation is a vital need for both Central and South America was the belief expressed by Thomas H. MacDonald, chief of the Bureau of Public Roads, at the recent annual meeting of the American Association of State Highway Officials in Detroit. Mr. MacDonald spoke at length about his trip to South America, describing the conditions found there and giving the conclusions drawn from his observations.

Not only is more efficient transportation the greatest single need of countries in Central and South America but it is of more importance to our own relations with these countries than any other single factor, Mr. MacDonald said. Many elements and every variety of condition enter into the accomplishment of this objective. Citing a specific case which shows the wide range of these, he said: "Panama needs highways to radiate from Panama City, Colon, and the towns of the Canal Zone, also a crossing or crossings of the canal itself. Much of the food needed in the interior now comes in by small water craft, mostly of primitive type. In war time or in times of untoward disturbances all movements by water must be placed under rigid surveillance and restrictions. During the recent war one highway reached for some distance in the country from Panama City and, we are told, became a very substantial factor in the bringing in of food and supplies to the local population. As a result, along this road to-day is a praiseworthy agricultural development, particularly of dairying, that indicates the influence that serviceable highways will exert."

The conclusion is inevitable that in these countries highway improvement of a major character must await the institution of adequate and sustained governmental policies, Mr. MacDonald said. There is a strong sentiment for rail extension to remedy the lack of

transportation which is plainly apparent but the necessity of building highways to feed the railways is not recognized.

Summing up his impressions, Mr. MacDonald said: "No expression, however vivid, can equal in its intensity of realization the actual experience of stepping back 20 years into the real conditions that might have been our own country's. Without the highway progress of the intervening years Panama, Peru, and Chile might well be our own California, Oregon, and Washington, with their mountains, forests, desert stretches, and semitropical areas, untraversed but by the primitive cart roads and pack trails, with only a beginning of the highways needed to open them to the travel and commerce of the world. The pampas of the Argentine might well be Illinois, Iowa, the level agricultural districts of the Mississippi Valley still struggling in the almost impassable mud of 20 years ago. Brazil might easily carry us back to the rolling, rich areas of North Carolina and the South, where without the highway record of 20 years a journey was not undertaken even between the larger cities. To undertake to stimulate the imagination to an adequate conception of what a tremendous influence highway improvement has exerted in our own country fails without personal opportunities to see the actuality by contrast; only meager assistance is offered by certain definite observations. Lands rich in potential production of agricultural products, minerals, fruits, timber, and oils are sorely handicapped by transportation difficulties. Even if the necessary freighting may be done in a fashion by rail or water or slow-moving ox and horse carts or pack trains, consider the effect of the lack of the quick, available modern highway transport upon the lives of the people, those upon whom are dependent the establishment of permanent homes, of permanent institutions, of schools, and of churches. Consider in the United States the effect upon the daily life of those outside of the cities and larger towns who are developing the natural resources and tilling the soils, the very foundation of the prosperity of the United States, if overnight their means of transport were returned to the ox cart, the horse-drawn wagon, and the pack train of burros. Contrast the radius of activity between the ox cart and the truck, the pack train and the automobile.

"More than this, imagine attempting highway operations without modern equipment and power machinery. Imagine the rate of progress possible with small mule carts and hand labor for moving earth in large quantities and small portable crushers for producing crushed stone."



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Federal Economy Practiced In "The Wide Open Spaces"

That opportunities for department economy are limited only by human resourcefulness is illustrated by a report received by the Bureau of Animal Industry from one of its stations in the West.

Dr. W. T. Huffman a Federal veterinary inspector engaged in suppressing sheep diseases in Idaho, found it necessary to make extended trips of inspection, sometimes 50 miles or more from a railroad. In traversing these wide open spaces in the flivver assigned to him, he encountered the problem of gasoline—a double problem, due partly to the scarcity of gas stations and partly to the high price resulting from hauling gasoline long distances by team or truck. At some points remote from the railroads, gasoline sells at a premium of 25 cents or more above the customary price.

At a cost of \$5 he had an additional 10-gallon gasoline tank installed back of the seat of his official runabout. It was a serviceable tank from a car that had been sold for junk, and the price included feed line and connections. In three inspection trips the tank had paid for itself through the economy of gasoline alone, not counting the time saved in not having to go to out-of-the-way gas stations to fill up. The small investment has continued to pay for itself many times over and gives Doctor Huffman a cruising range of about 350 miles without taking on gas. Since sheep ranches and grazing grounds are commonly off the main lines of travel, the extra equipment is particularly adapted for the purpose.

In this connection, promptness in investigating reports of disease and in making inspections is highly important. And the remarkable progress in freeing Idaho from sheep scab and reducing the prevalence of other ailment is due, in a measure, to the simple device mentioned, which combines Federal economy with practical efficiency in the field.

MAILING LISTS ESTABLISHED

The mailing-lists section, Office of Information, announces the establishment of the following mailing lists of the department:

Key No.	Bureau	Title of list
I-OR	Press service.....	Official Record list, foreign addresses.
PPB-F	Plant Industry.....	Plant physiologists and biochemists, foreign addresses.
4L-F	Agricultural Economics.	"Agricultural situation," foreign addresses.
259	Experiment Stations.	Agronomists at State experiment stations.
259-A	do.....	Chemists at State experiment stations.
259-B	do.....	Horticulturists at State experiment stations.
450-I	Plant Industry.....	Miscellaneous addresses to receive all publications of the bureau.

The distribution to mailing-list key No. 450 has been amended so that post-card announcements of new publications are now sent to this list instead of bulletins, etc. The new key No. 450-I is composed of persons who are maintaining complete files of these publications, and bulletins will be sent to these addresses as issued.

Consider Means of Strengthening Boys' and Girls' Club Work

Consideration of means for strengthening extension work with young people was one of the principal features of the extension directors' conference, held in Chicago during the meeting of the Land-Grant College Association, November 17-19. The agricultural colleges and the department expect within the next year to develop a far-reaching program for rural young people that will have the support of farmers and business men. This program will be formulated to enable the young people to take a larger part in the development of country life.

This subject was presented at a joint meeting of the three agricultural divisions of the Land-Grant College Association by Dr. C. B. Smith, Chief of the Office of Cooperative Extension Work, who said: "Our problem is to teach better practices in agriculture and home economics to all the rural population. It is a continuing task. When you have a teaching problem like ours, therefore, logic points to a large amount of work with the youth—not just a few of the youth, but with all of the youth. As teachers we recognize the need of working with young people, and in some degree we are meeting it. We enrolled in 1924, 510,000 boys and girls in club work and each one of these 510,000 started a piece of work looking toward the learning of some improved practice in agriculture and home economics. Of this number

283,000, or about 56 per cent, carried the work to completion.

"Not less work with adults but more work with juniors is needed in extension work," Doctor Smith said. "There are over 6,000,000 boys and girls of club age on the farms of the open country. We enroll now a half million a year. If we continue this rate and keep them in club work but a single year it would take us 12 years to reach these 6,000,000 boys and girls. No rural leader can look upon this as an adequate club program. Our goal should be that every man or woman who reaches maturity and remains on the farm shall have had during youth the opportunity to come in contact with boys' and girls' club work and to take an active part in it. Men and women thus trained get a bigger vision of rural life during their early years which stays with them to their profit all the days of their lives. They learn at the outset the sources of agricultural information and help; they begin their farm and home careers with a knowledge of and experience in cooperation and group action, one of the most vital needs of farmers. A goal which contemplates anything less than opportunity for every farm boy and girl to have this experience and to provide adequate leadership for it is not worthy of consideration.

"To enroll these 6,000,000 boys and girls for a period of two years, sometime between the ages of 10 and 18, it would be necessary to enroll each year about 600 per county," Doctor Smith estimated. "We are now enrolling about 180. If we reach this modest goal we shall need to increase our club work about threefold. The task of the county agent and home demonstration agent in teaching an average of 2,200 farm men and 2,200 farm women is too big to permit their taking on 3,600 young people in addition. They must have help. Ours is the responsibility for a forward-looking, expanding program that in the near future shall reach every rural boy and girl in America that wants it."

STATE EXTENSION CONFERENCE DATES

Notice of dates for additional State conferences of extension workers, received after the previous announcement of State conference dates in the issue of the OFFICIAL RECORD for October 21, are as follows:

Michigan, East Lansing: January 29, 30, February 1, 1926.

Mississippi, A. and M. College: January 8-15, 1926.

Nevada, Las Vegas: January 21-23, 1926.

New Mexico, State College: January 25-29, 1926.

Utah, Logan: January 13-19, 1926.

West Virginia, Morgantown: January 18-22, 1926.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What are the so-called protective foods?

Answer. An animal fed on a diet of purified proteins, carbohydrates, and fats, and supplied with minerals will cease to grow and eventually die. Such a diet may be made adequate for normal growth and bring about a good nutritive condition when small amounts of milk, fruits, and other natural foods are added. By careful experimentation it has been found that certain foods contain substances which will prevent the onset of specific diseases such as scurvy, beriberi, rickets, and eye infection. Milk, fruits, vegetables, and other naturally occurring foodstuffs, which can be eaten in amounts sufficient to furnish protection against any one or all of these so-called deficiency diseases, are sometimes termed "protective foods."

Question. What is the cost of meat inspection per animal?

Answer. The cost of meat inspection per animal was 0.0652 cent during the fiscal year ended June 30, 1925.

Question. Can a person, leaving the Federal service before arriving at retirement age, receive retirement allowance upon reaching retirement age?

Answer. The act of September 22, 1922, provides for the payment of annuities to employees involuntarily separated from the service without delinquency or misconduct before reaching the age of 70, 65 in case of mechanics, as follows: "Any employee 55 years of age or over to whom the retirement act applies, who shall have served for a total period of not less than 15 years and who, before reaching the retirement age as fixed in section 1 of that act, shall become involuntarily separated from the service, shall be granted an annuity certificate which will entitle said employee, upon reaching the retirement age, to an annuity equal to the annuity he would have received upon such separation from the service had he been of full retirement age: *Provided*, That the deductions made under the provisions of section 8 of the retirement act from such employee's salary, pay, or compensation prior to separation from the service shall remain in the 'civil-service retirement and disability fund,' subject to the provisions of that section of the act governing the return of deductions in the case of a deceased annuitant or employee. Any employee coming within the provisions

of the above shall have the right to apply for an immediate annuity in lieu of deferred annuity at the age of retirement."

Issues Recommendations on Problems of Livestock Production

To aid in bringing about improved conditions in livestock production and related work, the Bureau of Animal Industry has just issued a compilation of its recommendations on important livestock questions. Among the topics discussed are means for overcoming losses and for increasing returns from stock-growing enterprises. The compilation, which is for free distribution, also enables stockmen to know whether their methods are in accord with practices advised by the bureau. There are many official problems, especially in disease-control work, which are so closely related to animal production that a mutual understanding concerning them is desirable. These are frankly discussed.

Stated very briefly, the Bureau of Animal Industry is working for the following results: A better quality of livestock in the country; improved methods of livestock feeding; suppression of animal diseases and parasites; a higher standard of livestock sanitation; reduced mortality of young animals; humane treatment of livestock; high standard of veterinary education; useful discoveries through research and experimentation; suppression of runtiness among livestock; information on current conditions in livestock production; use of meat-inspection records in determining livestock health; cooperation among different branches of the industry; enforcement of laws and regulations; exclusion of foreign livestock diseases, pests, and injurious viruses; assistance to the industry through investigations and education.

The compilation of its recommendations was suggested to the bureau by the remark of a stockman, who stated, "The department has been of great help and encouragement to me by the fact that I know it believes in good livestock." Consequently a wider understanding of many other official policies and views is expected to bring about cooperation and general concentration of effort, thereby hastening the progress of many lines of work.

The bureau's recommendations consist of 57 paragraphs, each dealing concisely with a matter of public interest. Views are expressed on many much-discussed subjects, such as inbreeding, dual-purpose stock, establishment of new breeds, flushing of ewes, mortality of young animals, trap nesting in poultry breeding,

fictitious diseases, future of the livestock industry, and standards for judging livestock. Recognizing that these questions have many angles, the Bureau of Animal Industry, though stating its opinions frankly, invites comments from any persons who have dissenting views. Brief directions for coping with animal diseases, poisonous plants, and parasites comprise other portions of the discussion.

Since about 90 per cent of the personnel of the Bureau of Animal Industry is engaged in field work, more or less specialized, the summary will be an important means of familiarizing such employees with the various other branches of the work. The recommendations are issued in the form of a 14-page mimeographed pamphlet and may be obtained, without cost, on application. Besides supplying department employees, the bureau will furnish copies on request to livestock owners, agricultural writers, county extension agents, livestock specialists, the meat trade, and others interested in bettering the livestock industry.

CLUB MEMBERS AT DAIRY SHOW

An unusually large number of boys' and girls' club members were at the recent National Dairy Show in Indianapolis, 247 of them registering from 24 States. Twenty-three State champion dairy judging teams took part in the dairy judging contest, which was won by the Maryland team with a total score of 3,767 out of a possible 4,800 points. The winning team is eligible to compete in a similar contest at the English Royal Livestock Show should the competition which has been held at the three previous royal shows be repeated in 1926. The States entering judging teams were Alabama, Connecticut, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Vermont, West Virginia, and Wisconsin; North Dakota not competing, although at the show and entered in other contests.

Club teams from 19 States competed in giving demonstrations of improved practices relating to the dairy industry. Iowa's team won by a score of 97.5 points with a demonstration on "The production of clean milk." Boys and girls from 7 States exhibited their dairy calves in competition. New Jersey's 15 club calves won against 185 calves from other States.

A dairy judging contest was held this year for boys studying vocational agriculture in the public schools. Plans looking toward making this contest an annual feature of the National Dairy Show are being formulated.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

C. T. A. RECORDS LOCATE PROVED BULLS

The Bureau of Dairying, by means of improved calculating machinery, is tabulating all the cow-testing association records received from the various States. As a result, the bureau is now in a position to render to the States engaged in this work a service not hitherto possible.

The data received from the States are on tabulation strips, each giving the record of an individual cow. This record shows the State, name of association, and owner; the breed, age, weight, date of freshening, production of milk and butterfat, and feed consumption of the animal on test, together with information concerning her sire and dam.

The records, when received, are coded and punched on special tabulating cards. By the use of electrically driven sorting and tabulating machines these can be sorted and tabulated in a variety of ways so that the true worth of the testing work can be fully determined. Herd and association summaries are made for every association from which records are received. This makes possible the study of increase or decrease in production of each herd and association from year to year and the reasons for such changes. This is, however, only a part of the work done in the study of the records. A number of tabulations are made, based on the production data, which are also available to the State.

One of the most important studies, from the standpoint of its practical application, is that of determining the true value of the dairy sires used by the association members. A preliminary study based on the records of over 2,000 daughters and 2,000 dams showed that purebred sires, on the average, can and do raise the production of their daughters. In a study of the individual sires having five or more daughters, a wide variation in the ability to transmit high production was found. Some sires raised the production of all their daughters over quite high-producing dams, while others completely failed to increase the production of their daughters over that of comparatively low-producing dams.

The records furnish the true index of the bulls' transmitting ability, which is ascertained by comparing the records of production of the daughters with the

production records of the daughters' dams. Furthermore, this value is not based on a few selected daughters, but on all the daughters and dams.

By utilizing the information gleaned from these records and applying it in a practical way in his breeding operations, the dairy farmer can eliminate the sires of poor transmitting ability and breed his cows to good proved sires. This means that dairy bulls should be kept until the cow-testing association records show their true value, then a weeding out of the undesirable bulls should take place, and the good sires should be kept so long as they can be continued in active service. Some plan of sire exchange will, of course, be necessary in order to prevent inbreeding. This leaves a problem which the extension forces, in cooperation with the breeders in communities, will work out. Proved sires are the means by which guesswork can be removed from dairy cattle breeding, and cow-testing association records will locate the good proved sires to be used.

WITH EXTENSION FORCES

LET RETURNS BUILD THE BUSINESS

Wyoming quit worrying several years ago about where to procure the Thanksgiving and Christmas turkeys. Now Wyoming not only serves home-grown birds at these annual feasts but is supplying them to other States. Development of Wyoming as a turkey-producing section has been urged by the extension workers of the State for three reasons: (1) The climate induces fattening in time to place the stock early on the holiday markets; (2) livestock growers needed a supplemental cash crop; and (3) where there are sufficient turkeys, grasshoppers cease to be a liability and become an asset, for the turkey epicures have high regard and large appetites for the grasshopper.

In one of the counties, Park, turkey production has grown in four years from a negligible amount to export proportions, in which the Thanksgiving shipments alone are totaling over 75,000 pounds. Big Horn, Fremont, Goshen, and other counties have made similar progress.

Park County farmers began to take a serious interest in the arguments of R. J. Allen, then county agent, for turkey growing when an unusually heavy infestation of grasshoppers came in 1921. They saw, when he pointed it out to them, that even a small flock of turkeys quickly cleared the hoppers from a relatively large area. Some of them saw, too, when he called their attention to it, that here was a means by which grass-

hoppers could be combated and some money made at the same time. At his suggestion farmers who had good turkey hens retained them that year. Some good toms were bought also, and the flocks were given better care.

Enough turkeys were grown in the county the next season, 1922, to make possible the shipping of a carload of dressed turkeys. The cash returns, while not large, gave zest to the undertaking for those who had turkeys and started some thinking on the part of those who had none.

The county agent felt that the marketing phase must have careful attention as the new enterprise grew. So, in 1923, in addition to help in management of the young birds, a number of killing and dressing demonstrations were given, some by the agent and some by representatives of poultry-buying firms who cooperated with Mr. Allen. A farm-bureau committee completed a marketing organization in conjunction with L. E. McDanials, then county agent, and the farm bureau of an adjoining county—Big Horn. This organization received the bids for the crop.

Six receiving stations were established in the two counties for the 1923 Thanksgiving crop. Turkeys were accepted for five days, and by working night as well as day the first big shipment was ready on scheduled time. The two counties shipped 15,000 birds, about half from each county.

As soon as the shipment had gone forward the farmers began wondering how their birds would be graded by the purchasing firm. They all wanted the prices quoted on grade 1 birds. Then they wanted to know what would produce a grade 1 bird. From this line of thinking came a stronger interest in good stock and good management, which the extension program fostered. When the 1924 Thanksgiving shipment of three 25,000-pound cars was packed by Park County it was found the turkeys averaged 2 pounds heavier than in 1923, although the season had been somewhat less conducive to fattening. The 1925 crop promises to show even greater advance.

With a large percentage of practically all the farmers in Park, Big Horn, Fremont, Goshen, Washakie, and other counties now interested in turkey production, the county agents of these counties are planning future work for education in disease-prevention measures and a "raise your own feed" campaign.

An announcement to the effect that the date set by the closing of the Egyptian Agricultural Exhibition has been extended to March 20, 1926, has been received by the department.

BRIEF REVIEWS OF NEW BULLETINS

Certification of Coal-Tar Food Colors. Prepared by the Bureau of Chemistry. Pp. 12. November, 1925. (Miscellaneous Circular 52.) Price, 5 cents.

This publication outlines the procedure for the certification of coal-tar food colors. In it authorization is given the Bureau of Chemistry to certify coal-tar food colors which meet the accompanying requirements for certification. The permitted dyes, which now number 11, are described and the terms used in the regulations are defined. Additional dyes may be admitted to the list of permitted coal-tar food colors when they meet certain requirements.

ADDITIONAL PUBLICATIONS

Report of the Secretary of Agriculture, 1925. Pp. 105.

Report of the Chief of the Bureau of Agricultural Economics, 1925. Pp. 25.

Report of the Chief of Bureau of Biological Survey, 1925. Pp. 28.

Report of the Entomologist, 1925. Pp. 35.

Report of the Federal Horticultural Board, 1925. Pp. 28.

Report of the Chief of the Bureau of Plant Industry, 1925. Pp. 36.

Experiment Station Record. Vol. 53. No. 6. Abstract number. Pp. 501-600. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Production of Sweet-Potato Seedlings at the Virgin Islands Experiment Station. By John B. Thompson, director. Pp. 13, pls. 3, figs. 2. December, 1925. (Virgin Islands Agricultural Experiment Station Bulletin 5.) Price, 10 cents.

Soil Survey of Lexington County, South Carolina. By W. J. Latimer, Cornelius Van Duyn, W. E. McLendon, and W. I. Watkins. Pp. 50, fig. 1, map. (From F. O. Soils, 1922.) Price, 25 cents.

Soil Survey of Weirich County, Idaho. By Mark Baldwin, of the United States Department of Agriculture, and F. O. Youngs, of the University of Idaho. Pp. 28, pls. 3, fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

Soil Survey of Iowa Agricultural Experimental Station, and A. L. Gray, of the United States Department of Agriculture. Pp. 36, fig. 1, map. (From F. O. Soils, 1922.)

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of December 1-5, 1925. Copies of these publications may be obtained from the stations issuing them:

Recent progress in solving some farm problems of Illinois. Thirty-seventh annual report Illinois Agricultural Experiment Station for the year ended June 30, 1924. H. W. Mumford et al. Pp. 196, figs. 45.

Commercial feeding stuffs. O. S. Roberts, R. O. Bittler, P. R. Curtis, and W. C. Altshuler. (Indiana Sta. Bul. 204, pp. 28, fig. 1. May, 1925.)

The production and marketing of farm products in Wayne County, Ind. M. H. Overton and P. K. Edwards. (Indiana Sta. Bul. 295, pp. 44, figs. 20. June, 1925.)

Sheep feeding—XIII. Fattening western lambs, 1924-25. J. H. Skinner and F. G. King. (Indiana Sta. Bul. 296, pp. 11, fig. 1. July, 1925.)

The value of silage in the dairy ration. L. H. Fairchild and J. W. Wilbur. (Indiana Sta. Bul. 297, pp. 12, figs. 7. Sept., 1925.)

Eleventh annual report of the dairy department creamery license division for the year ending March 31, 1925. W. G. Goss. (Indiana Sta. Circ. 125, pp. 20, figs. 6. June, 1925.)

The Mexican bean beetle. J. J. Davis. (Indiana Sta. Circ. 126, pp. 11, figs. 7. July, 1925.)

Electricity for Indiana farms. T. E. Henton. (Indiana Sta. Circ. 127, pp. 15, figs. 16. Aug., 1925.)

Corn breeding yields results. G. N. Hoffer et al. (Indiana Sta. Circ. 128, pp. 12, figs. 9. Aug., 1925.)

Analyses of commercial fertilizers. R. N. Brackett and H. M. Stackhouse. (South Carolina Sta. Bul. 224, pp. 57. Oct., 1925.)

Improving winter rations for pigs. A. H. Kuhlman and J. W. Wilson. (South Dakota Sta. Bul. 216, pp. 24, figs. 7. Nov., 1925.)

Potato production in Utah. G. Stewart. (Utah Sta. Circ. 58—Revision of Circ. 40—pp. 63, figs. 25. Nov., 1925.)

To Study Comparative Value of Vitrified Paving Brick

The Bureau of Public Roads has announced its intention to conduct a series of tests for the purpose of establishing, if possible, a measure of the comparative value of vitrified paving brick of various depths, particularly those less than 3 inches. For this purpose a brick pavement composed of several new sizes of brick has been recently laid on the circular track at the Arlington Farm on which other experiments have recently been completed. The brick have been donated by the manufacturers through the cooperation of the National Paving Brick Manufacturers' Association, and the pavement was laid by expert pavers employed by the association. The pavement will be tested by means of a motor truck equipped with solid rubber tires which will be driven around the circle at a given speed and under various increments of loading. This will be followed by a second series of tests, using the same truck and loads but with the wheels equipped with nonskid chains. It is hoped by means of this series of tests to determine whether vitrified brick less than 3 inches in depth will satisfactorily withstand the abuse of actual traffic.

A series of tests on concrete slabs made in connection with the study of the effect of the patented vibrolithic method of constructing pavements has recently been made. These tests were made at the age of 28 days, and another series will be tested at the age of 1 year. Data are to be secured as to the tensile strength in the bottom and top of the slab and the percentage of voids in various parts of the slab, as well as other information to determine the value of this method of construction.

The field work on the circular track composed of a number of sections of various bituminous mixtures has been

completed after subjecting the pavement to 75,000 passages of a truck loaded to about 7 tons. The distortion of painted lines across each section on which 25 reference plugs were set, indicates that several of the mixes have shovled and rutted badly. Others have proved extremely resistant to the traffic imposed. It will require considerable study to explain the behavior of all of the sections. However, the effect of variations in the bitumen content upon the stability of mixtures containing the same aggregate combinations is clearly evident.

Attention has been attracted recently by failures of concrete which have been attributed to the inability of the aggregates used to resist repeated frost action without disintegration and consequent injury to the concrete. The bureau now has under way a series of freezing and thawing tests on concrete in which various types and grades of coarse aggregate are used. These tests are being made on beams which are alternately to be frozen and thawed and then tested for strength. It is believed that the results of these tests will be useful in selecting materials for concrete which is subjected to freezing and thawing.

COTTON-MARKETING FILM POPULAR

Wide interest in the cooperative marketing of American cotton, as practiced by some 280,000 cotton growers, is indicated by the requests being received by the department for its motion-picture film *Cooperative Marketing—Cotton*. Among the agencies that have been authorized to purchase copies of this film since its release in January, 1925, are the Indian Central Cotton Committee, Bombay, India, and the Department of Agriculture and Stock, Brisbane, Queensland, Australia. It has been exhibited privately to numerous representatives of foreign governments, bankers interested in financing cooperative enterprises, and others with varied interests in the cooperative movement.

A new extension paper had its "coming-out party" in November, the youngest child of the Michigan agricultural extension family. Director Baldwin introduced the debutante, No. 1, volume 1, *Extension News of Michigan*, with a foreword on the need for the paper and its purpose. It carries four pages of pertinent extension news, of which short, arresting items are a feature. Illustrations are effectively used. J. S. Crossman, until recently doing similar work in Ohio, is associated with J. B. Hasselman, supervisor of publications, Michigan agricultural extension service, as editor.

PRINCIPAL LIBRARY ACCESSIONS

DOMESTIC ANIMALS

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Lancaster, D. S. [and others]. Livestock and poultry. Atlanta, T. E. Smith, 1925.
Ludwig, F. G. Die beteiligung grösserer gemeinden an der fleischversorgung durch zucht und mast von schweinen, zwickau, Eichhorn & Posern, 1925. Inaug.-diss.—Leipzig.
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Cooper, William, & nephews (Ltd.). Diseases and pests affecting sheep and goats in South Africa. 4th ed. Berkhamsted, Eng. [n. d.].
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HORTICULTURE AND LANDSCAPE GARDENING

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Trinidad, Department of agriculture. Gardening in the tropics, especially written for school gardens in Trinidad and Tobago. By R. O. Williams. Trinidad, 1924.

FIELD CROPS

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ENGINEERING

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Cowdrey, I. H., and Adams, R. G. Materials testing theory and practice. New York, Wiley, 1925.
Harris, E. G. A study on reinforced concrete dams. Rolla, Mo., 1925. (School of mines and metallurgy, University of Missouri. Bulletin v. 8, No. 3.)
Poorman, A. D. Strength of materials. New York, McGraw-Hill, 1925.

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Dodds, E. C., and Dickens, F. The chemical and physiological properties of the internal secretions. London, Oxford university press, 1925.
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Mathews, A. P. Physiological chemistry. 4th ed. New York, W. Wood, 1925.

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Denne, Lexa. Two hundred and fifty wartime recipes. Victoria, B. C., W. H. Cullin, 1918.
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CIVIL SERVICE ANNOUNCEMENTS

Junior observer in meteorology, \$1,320. Vacancies in the Weather Bureau throughout the United States and in positions requiring similar qualifications will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$1,650 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the United States Civil Service Commission, Washington, D. C. Receipt of applications will close January 9, 1926.

Specialist in cotton classing, \$3,800; associate specialist in cotton classing, \$3,000. Vacancies in the Bureau of Agricultural Economics for duty in Washington, D. C., and in the field, and in positions requiring similar qualifications, will be filled from this examination. After the completion of the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$5,000 a year for specialist in cotton classing and up to \$3,600 a year for associate specialist in cotton classing. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 12, 1926.

Perhaps three times as many farm families go to see community exhibits as attend county exhibits. Those are the proportions, at least, in a section of Middlesex County, Mass., where a study was made recently by the Office of Co-operative Extension Work and the Massachusetts Agricultural Extension Service of the effectiveness of 4-H club work. Less than one-tenth the number in this section attracted by the community shows had visited the State exhibits.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business

VOL. IV

WASHINGTON, D. C., DECEMBER 23, 1925

No. 51

LIVESTOCK RESEARCH GROWS IN PROMINENCE

Federal and State Investigators Join Forces to Solve Knotty Problems

Broad developments in its experimental and research programs in animal husbandry are placing these activities of the Bureau of Animal Industry on a plane ranking in importance with the regulatory and veterinary work for which the bureau was originally created. The new development is largely an outgrowth of the need to solve knotty problems in animal production and the use of livestock products, which are too comprehensive for individual States or even the department to handle individually.

Meat Studies Under Way

Cooperative meat investigations dealing with the quality, palatability, and food value of meat in connection with production and distribution problems are now well under way. Eighteen States and the Department of Agriculture already are conducting experiments in accordance with a definite cooperative project. Sixteen more States are ready to begin additional experiments leading to the common goal early in 1926. A novel part of the work has been the development of special, sensitive machines to test the tenderness of meat, an important factor in quality. Portions of this apparatus have been tested and calibrated by the Bureau of Standards and make possible ingenious tests of meat tissues. One device measures the tensile strength of the fibers; another measures tenderness by the number of strokes needed to wear through a meat sample. Still another

of the punch-and-die style measures the resistance of the meat to penetration.

To aid housewives in judging the quality of meat the investigators are developing standard color charts. While color is not an exact index of quality, it nevertheless is a factor in the attractiveness of meat just as it is in apples.

Simultaneously with the investigations outlined, important experiments on the breeding of cattle and their quality as judged by market grades are in progress. Data of this nature on approximately 1,000 head of cattle will be obtained during the first year's work.

PRESIDENT TRANSMITS SHOALS STATEMENTS

International Soils Conference In- dorsed—More Bills of Interest to Agriculture

A request by the Secretary of Agriculture for legislation authorizing the holding of an international conference on soil science in the United States in 1927 has been referred to the Senate Committee on Agriculture and Forestry and to the House Committee on Foreign Affairs. This request was transmitted to the Senate with a message from the President indorsing the proposal.

Another message from the President regarding Muscle Shoals has been referred to the same committee. With this message the President transmitted the majority and minority reports made by the Muscle Shoals inquiry as to the best means of producing nitrates at the Muscle Shoals plant.

Would Amend Grain Standards Act

Vice President Dawes laid before the Senate a concurrent resolution of the legislature of North Dakota, petitioning for the repeal of the Federal highway aid act. The petition charges extravagant mismanagement and ill-advised expenditures of Federal aid moneys by each State and county in the country.

A bill (H. R. 237) to amend the United States grain standards act by making its provisions inapplicable to grain prior to its delivery for shipment in interstate or foreign commerce has been introduced by Representative Sinclair, of North Dakota. The bill provides that all grain not moving in interstate or foreign commerce shall be held subject to State laws.

TO THE Members of the Department of Agriculture:

I want to extend to each of you my heartiest Christmas greetings and my wish that you may enjoy all the pleasures of the season.

I know of no organization which in community of purpose and in unified zeal for the best interests of a great cause represents more nearly the ideal family spirit than does the Department of Agriculture. What the Department of Agriculture represents and what it accomplishes are due to you, and I am sure there are few farmers in the United States who are not grateful for what has been done by the department toward making agriculture more efficient and rural life happier.

Your Christmas should be especially worth while in your realization that you have been, not only at this one season but throughout the year, constant givers of those things which are most useful.

May each of you have many years of happiness in thus serving a great industry and a great Nation.

Sincerely yours,

W. M. Jarvis
Secretary.

Experimental work in the past has given emphasis to the economy of gains and cost of production, whereas the new project considers the problem in a vastly broader way. Thus far 14 States are cooperating on beef projects, 3 States are making special studies of mutton and lamb, 1 State is conducting veal investigations, and several others are devoting their attention to poultry. The Bureau of Agricultural Economics cooperates in the grading of these meat products.

E. W. Sheets, chief of the animal husbandry division of the Bureau of Animal

(Continued on page 5)

Provision for aided and directed settlement on Government land in irrigation projects is proposed in a bill (H. R. 270) introduced by Representative Winter, of Wyoming. Under the bill the Secretary of the Interior would have authority to allot farms in irrigation projects to persons with experience in farming and possessing not less than \$1,500 capital. Provision is also made in the bill for loans to settlers out of the reclamation fund provided by the reclamation law. Charges against the land would be paid by the settlers in accordance with existing legal requirements.

Representative Leavitt, of Montana, is author of a bill (H. R. 309) authorizing State taxation of the holdings of entrymen on Federal irrigation projects.

Medals for Distinguished Scientific Work

A bill (H. R. 3846) providing for a medal of honor and awards to Government employees for distinguished work in science has been introduced by Representative Griffin, of New York.

A number of bills have been introduced which are of particular interest to workers in the Biological Survey. Senator Wadsworth, of New York, introduced a bill (S. 94) to protect navigation from obstruction and injury by preventing the discharge of oil into the coastal navigable waters of the United States. Representative Appleby, of New Jersey, presented a bill (H. R. 3786) to amend an act entitled "An act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes," approved March 3, 1899, by adding a new section thereto forbidding the deposit of noxious acids and acid materials in navigable waters of the United States. Representative Wilson, of Louisiana, introduced a bill (H. R. 5382) to prevent the pollution by oil of navigable rivers of the United States. Senator Ransdell presented a similar bill (S. 1717).

Grazing Districts on Public Lands

Senator Phipps, of Colorado, introduced a bill (S. 752) to provide for the establishment of grazing districts on the public lands of the United States and Alaska and to regulate their beneficial use by livestock, and for other purposes.

A bill (S. 1147) to establish game sanctuaries in the national forests was presented by Senator Robinson, of Arkansas. Senator Brookhart, of Iowa, is the author of a bill (S. 1053) for the establishment of migratory-bird refuges and public shooting grounds.

Representative O'Connor, of Louisiana, is the author of a bill (H. R. 5025) to

create a waterways and water resources commission. A bill (S. 1640) authorizing the Secretary of Agriculture to establish a national arboretum, and for other purposes, was presented by Senator Pepper, of Pennsylvania.

Bark Beetles Destroy Lodge-pole Pine Forests

On less than 2,500 acres lying within the East Fork drainage of the Bitterroot River, Mont., the mountain pine beetle has killed in three years more than 3,000,000 lodge-pole pine trees—enough timber for ties to rebuild the Northern Pacific Railroad tracks from St. Paul to Seattle. The outbreak was discovered in 1924 and is apparently the head of an epidemic which has been sweeping south along the west side of the Continental Divide since 1910, leaving in its wake a devastated forest of lodge-pole and yellow pines.

The insect responsible is a stout, black, cylindrical bark beetle about one-fifth of an inch long. The attacking beetles bore through the outer bark and make long, perpendicular egg galleries between the living bark and wood. Along these galleries eggs are laid which soon hatch into small white grubs, or larvæ. These larvæ tunnel, at right angles to the egg galleries, short mines, which end in transformation cells. Here the mature larvæ change to pupæ and then to adult beetles, which emerge and attack new trees. The galleries, or tunnels, completely girdle the tree and cause its death.

A tree can not be saved after it has been successfully attacked; therefore, control measures aim to destroy the insect broods under the bark so as to prevent their emergence and the attack of other trees. To do this the trees are felled and the bark peeled from the infested part of the trunks while the insects are still larvæ or pupæ, for these stages are soon destroyed by exposure and predacious insects. Another method that obviates the expense of barking the trees can often be applied to kill the broods of the beetle. This consists in severely scorching the infested portion of the bole of felled and, occasionally, of standing trees.

For many years it was hoped that in some way nature unaided would reduce this forest-destroying insect infestation, and no artificial control measures were attempted. By 1923, however, it had traveled more than 100 miles from its source, and had reached the valuable pine of the Missoula National Forest. Control measures were begun near Phil-

lipsburg, Mont., in May, 1924, in an attempt to prevent the destruction of these timber stands. Later in the season it was found that the beetles had spread across the defense line, and were firmly established at the head of the Bitterroot River, where entire mountain sides were red with the discolored foliage of dying trees. This necessitated moving control operations to the East Fork of the Bitterroot River, where, in May and June, 1925, a zone of defense was established across the head of the epidemic, in which all infested trees were treated. It was planned to hold this zone by treating all infested trees within it for a period of several years or until the outbreak had died down. The survey which followed this operation showed that the work had not been sufficiently extensive to accomplish the desired results, for during the summer the beetles had swept into and across the zone of defense, infesting hundreds of thousands of trees, and making the continuance of the original plan economically impossible.

It had also been hoped that the Continental Divide would at least act as a forest-type barrier to the eastward spread of the epidemic, but in the summer of 1925 it was found that the beetles had apparently crossed from the Bitterroot Forest, and were established in the valuable lodge-pole pine stands of the Big Hole Basin. Artificial control measures have been recommended for this region, and it is hoped that the bulk of the timber which has a high commercial value for mining materials, railroad ties, etc., will be saved.

TO TEST "THIRSTINESS" OF TREES

The Forest Service, at its Rocky Mountain Forest Experiment Station, is about to undertake a four years' study of the relative thirstiness of different tree species in various soils. For this transpiration test some 40 or 50 galvanized iron cans filled with four soils are to be used. In these cans will be planted the greater part of 700 1-year-old seedlings, about 10 or 12 to a can. To measure the amount of moisture the little trees require, the cans will be sealed in around the seedlings, leaving only a small covered opening where water in measured quantities can be poured in. The dampness or dryness of the soil in the cans may be estimated at any time by weight. No water can escape except by transpiration through the leaves. Seedlings will be pulled up, weighed, and photographed from time to time during the next four years. About 40 plants of each species are expected to be "in at the finish" in 1929.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Massachusetts.—John P. Helyar, county agent of Windham County, Vt., has been appointed extension specialist in agronomy to succeed John B. Abbott, who has accepted the position of agronomist for the Soil Improvement Committee of the National Fertilizers' Association. John A. Crawford, extension editor, has resigned to become general assignment editor of the Cleveland Plain Dealer, and his place has been taken by Robert D. Hawley, who also continues to fill the position of supervisor of correspondence courses. Earle S. Carpenter has recently taken up his duties as supervisor of exhibits and extension courses, and Robert J. McFall, specialist in co-operation and marketing, has been transferred to the experiment station under the Purnell Act. Willard G. Patton, former assistant county club agent in northern Worcester County, has been appointed county club agent in Berkshire County to succeed Henry J. Talmadge, who is now agricultural agent in that county. Earle M. Ricker, formerly instructor in agriculture at Weymouth, has succeeded Herbert A. Rose as county agent in Norfolk County, and Henry W. Fienemann, former county agent in Lacomia, N. H., has been appointed county agent in Essex County.

Tennessee.—C. F. Park, county agent in Johnson County, has resigned, effective January 1, to return to his home in Madison County, Ky., to operate his father's farm. H. G. Cress, of Kentucky, has been appointed county agent in Marshall County.

Washington.—Maud Wilson, assistant director of the extension service, who resigned December 1 to accept a position as research professor in home economics at Oregon Agricultural College, has been succeeded by Elmina White, formerly boys' and girls' club specialist.

FORTHCOMING EVENTS

Farm and home week will be held at the Kansas State Agricultural College, Manhattan, February 8 to 13.

IMPORTANT DEVELOPMENTS

Kansas fruit growers attribute much of their success in combating insect pests to a timely service during spraying season by the extension horticulturist. A field man from each district keeps the horticulturist advised by telegraph as to the most opportune dates to apply the various sprays, and the information is relayed back to the growers

with the utmost promptness. In reply to a questionnaire sent to 3,000 growers, several hundred attested to the value of the 10 timely topics mailed one or two days previous to spray dates, advising them what to use and when to apply each particular spray. The mail service is supplemented by radio talks by the extension horticulturist. Next spring the different fruit sections will be zoned in order that more definite dates and instructions may be given each one.

Third place in the dairy demonstration contest, third in judging Guernsey cattle, sixth on Holsteins, seventh on Ayrshires, eleventh on all breeds, and a bronze medal were among the honors won by Tennessee dairy club members in competition with club boys and girls from 23 States at the National Dairy Exposition, Indianapolis, Ind., October 10 to 17. The demonstration team consisting of two Shelby County boys gave a demonstration on producing cream for butter making. On the dairy cattle judging team, consisting of two boys and a girl, the latter was one of three young women in the national contest, and was the only one from the South. She won third place judging Guernseys, which meant that she outranked 66 other contestants, and was awarded a bronze medal by the National Dairy Exposition. The ratings of Tennessee club members this year have been the highest since they began competing three years ago at the National Dairy Exposition. In 1923 the demonstration team stood eleventh, sixth in 1924, and third this year. The judging team stood seventeenth in 1923, fourteenth in 1924, and eleventh this year.

BANKERS AND FARMERS COOPERATE

The chairman of the agricultural commission, Michigan Bankers Association, has just sent to the members of the association the following form letter entitled "Cooperation for farmers":

"Secretary Jardine and many of our best agriculturists express the thought that 'the farmer is capable of solving his own problems.' Our National Government has of late been giving the agricultural questions very careful and considerate investigation, resulting in real, beneficial aid to the farmer, involving better transportation rates, financial aid to rural banks in the West and Southwest in the wheat and cattle sections, restricting imports of agricultural products, laws encouraging cooperative associations for buying and selling, and helping to control insects and diseases of plants that have been destructive in many sections of the country, and this work has been supplemented and aided by the State agricultural colleges.

"The Government weather reports have been of great assistance in the conduct of farm management.

"These direct benefits have been and will be of great benefit and real financial saving to the farmer, and it has helped educate him to be much more independent and businesslike in all his farm management, by the standardization of his products, and a wider distribution of marketing his products, and this alone is one of the most important aids for the farmer to receive better prices, and consequently a larger consumption for all products of the farm. * * *

"The farmer is beginning to realize the great benefit of cooperation in his selling and buying, and many communities have well-organized cooperative associations and are financially successful, operating under a capable business management. * * *

"The Michigan farmers and bankers have, by their cooperation, been of mutual benefit in every section of our State. The bankers have not only given financial aid when needed but by their real interest in the farmer problems have stimulated many sections towards better methods and a more profitable production."

WALL DISPLAY FOR BETTER LIVESTOCK

"A Sign for Progressive Livestock Owners—Get One by Becoming a Purebred-Livestock User and Improving Your Livestock." A panel bearing the foregoing announcement is a portion of a neat wall display prepared by the Bureau of Animal Industry.

This display has been designed particularly in response to requests from county agents and others actively interested in better livestock but whose time for the work is limited. A lithographed sign and several copies of the enrollment blank, fastened with cord, complete the miniature exhibit which is intended chiefly for display in county agents' offices.

Copies have been distributed to persons who have made requests for this means of advancing livestock improvement in their localities. So long as the limited supply lasts the Bureau of Animal Industry will furnish copies to county agents and other authorized extension workers who request them.

Dr. Z. Z. Zee, professor of chemistry and chemical engineering at Yale University, Changsha, China, was a recent visitor at the Bureau of Chemistry in connection with the chemistry and technology of China wood oil. While at Yale 17 years ago, Professor Zee was a student of Doctor Jamieson, now in charge of the oil, fat, and wax laboratory of the bureau.

THE OFFICIAL RECORD

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Memorandum of Office of Personnel and Business Administration

Department to be Closed on December 26

P. B. A. CIRCULAR No. 22—DECEMBER 15, 1925.—The following Executive order, issued by the President on December 11, 1925, is published for the information and guidance of the department:

EXECUTIVE ORDER

As an experiment, not as a precedent, in lieu of the orders heretofore usually issued providing that four hours shall constitute a day's work for all clerks and other employees of the Federal Government and the Government of the District of Columbia, in the said District of Columbia, on December 24th and December 31st, it is hereby ordered that the several Executive Departments and independent Government Establishments in the District of Columbia, including the Government Printing Office and the Navy Yard and stations, be closed on Saturday, December 26, 1925, and all clerks and other employees in the Federal Service in the District of Columbia, except those who may for special public reasons be excepted from the provisions of this order, or those whose absence from duty would be inconsistent with the provisions of existing law, are hereby excused from duty on that day.

CALVIN COOLIDGE.

THE WHITE HOUSE,

December 11, 1925.

This order has been issued in lieu of the orders heretofore usually issued granting a half-holiday on Christmas Eve and New Year's Eve. No order closing the Executive Departments or excusing the Government employees from duty on January 2nd, following New Year's Day, will be issued.

The order does away with the half-holiday on December 24 and 31, and the usual hours of duty will be observed on January 2, 1926.

Employees absent on regular approved leave will not be charged for December 26.

By direction of the Secretary.

W. W. STOCKBERGER,
Director.

FEDERAL ECONOMY—300 INCHES OF IT

Federal economy extends not only to funds actually saved but to conservation of limited storage space in Federal offices. A method by which 300 inches of shelf space was saved in the course of the last three years is described by Dr. T. A. Shipley, inspector in charge of the Bureau of Animal Industry station at Sioux City, Iowa.

Certain field records having heavy cardboard covers were necessary for reference. The covers alone occupied 300 inches of shelf space. By removing the cardboard backs and hand punching

the sheets it was possible to file them on wires through the holes.

At the suggestion of Doctor Shipley, lighter covers are now being used, saving nearly 25 pounds of cardboard in the books required annually by the Sioux City office alone. The economy in cost of books, reduced weight, and filing space henceforth will become effective also in the other offices using this class of records.

DR. P. B. DUNBAR MADE ASSISTANT CHIEF

Dr. Paul B. Dunbar, of the State of Maryland, has been appointed as an additional assistant chief of the Bureau of Chemistry of the department, effective December 16, 1925, according to an announcement by Dr. C. A. Browne, chief of that bureau. Doctor Dunbar will have general supervision of administrative matters relating to the enforcement of the Federal food and drugs act, the tea inspection act, and the naval stores act.

Doctor Browne announces that an additional assistant chief has been appointed in order that he may give more of his time and attention to directing the scientific investigations conducted by the Bureau of Chemistry. Dr. W. W. Skinner, who has been assistant chief for several years, remains in that position with no change in his duties.

Doctor Dunbar has been engaged in scientific and administrative work in the Bureau of Chemistry in connection with the enforcement of the Federal food and drugs act since 1907, when that law became effective. He was appointed an assistant chemist in that year and has served in various capacities since that time. He conducted scientific investigations in the Food Control Laboratory and served for a time as assistant chief of the Eastern Food and Drug Inspection District. He was promoted to the position of technical administrative assistant in 1917 and assigned to the office of the chief of the bureau. Since that time he has assisted in the administrative work involved in the enforcement of the food and drugs act.

Doctor Dunbar received a Ph. D. degree from Johns Hopkins University in 1907, having previously received B. S. and M. S. degrees from Pennsylvania College, Gettysburg. He is the author of a number of scientific papers on food analysis.

CORRECTION

The title "Hemp plants to be tried in the Canal Zone," in the Official Record of December 9, is misleading, says the Bureau of Plant Industry. The plants that have been brought from the Philip-

pine Islands to the Canal Zone are abaca. These plants are strictly tropical, closely related to the banana plant, and yield a hard fiber. They are very different from the true hemp cultivated in Wisconsin and Kentucky, which yield a soft fiber, and which can be grown only in a temperate climate.

LOCATION OF BUREAUS AND OFFICES

In response to various requests for the location of the different bureaus and offices of the department, we are publishing the following, corrected to date:

Secretary, Hon. William M. Jardine, administration building.

Assistant Secretary, Hon. Renick W. Dunlap, administration building.

Director of Scientific Work, _____.

Director of Regulatory Work, W. G. Campbell, administration building.

Director of Extension Work, Clyde W. Warburton, room 318, 220 Fourteenth Street SW.

Director of Information, Nelson Antrim Crawford, 215 Thirteenth Street SW.

Weather Bureau, C. F. Marvin, chief, Twenty-fourth and M Streets NW.

Bureau of Animal Industry, Dr. John R. Mohler, chief, east wing.

Forest Service, Col. W. B. Greeley, chief, 930 F Street NW.

Bureau of Plant Industry, Dr. W. A. Taylor, chief, west wing.

Bureau of Chemistry, Dr. C. A. Browne, chief, 216 Thirteenth Street SW.

Bureau of Soils, Prof. Milton Whitney, chief, east wing.

Bureau of Entomology, Dr. L. O. Howard, chief, entomology building.

Bureau of Biological Survey, Dr. E. W. Nelson, chief, Bieber Building, 1358 B Street SW.

Bureau of Public Roads, Thos. H. MacDonald, chief, Willard Building, Fourteenth Street below F.

Bureau of Agricultural Economics, Thomas P. Cooper, chief, Bieber Building, 1358 B Street SW.

Bureau of Home Economics, Dr. Louise Stanley, chief, N-O Building, Government Hotels, Union Station Plaza.

Cooperative Extension Work, Dr. C. B. Smith, chief, room 109, 220 Fourteenth Street SW.

Packers and Stockyards Administration, John T. Caine, chief, 1316 B Street SW.

Grain Futures Administration, Dr. J. W. T. Duvel, chief, administration building.

Federal Horticultural Board, Dr. C. L. Marlatt, chairman, entomology building.

Insecticide and Fungicide Board, J. K. Haywood, chairman, Olive Building, 220 Thirteenth Street SW.

Fixed Nitrogen Research Laboratory, Dr. F. G. Cottrell, chief, American University, Massachusetts and Nebraska Avenues.

Publications, L. J. Haynes, chief, 215 Thirteenth Street SW.

Solicitor, R. W. Williams, administration building.

Chief clerk, R. M. Reese, administration building.

Department Library, Miss C. R. Barnett, librarian, Bieber Building, 1358 B Street SW.

Office of Experiment Stations, Dr. E. W. Allen, chief, room 512, 220 Fourteenth Street SW.

Office of Motion Pictures, F. W. Perkins, in charge, 1368 C Street SW.

Office of Exhibits, J. W. Hiscow, in charge, building F, Seventh and B Streets NW.

Press Service, C. E. Gopen, chief, 215 Thirteenth Street SW.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. What are the small, white, worm-like objects occasionally seen in the flesh of wild ducks? May fowls containing them be eaten?

Answer. The white cysts sometimes found in the muscles, especially of the breast, of wild ducks are a protozoan parasite, *Sarcocystis rileyi*. This parasite is one of a group of protozoans known as Sarcosporidia, which are found almost exclusively in the striped muscles of mammals and birds. Within the muscle fiber the parasite grows until it may distend the fiber to such an extent that the latter ruptures, the invaded muscles in this way being more or less destroyed. This parasite is not uncommon in this country. There are specimens in the collections of the department from domestic ducks, mallards, black ducks, shovellers or spoon-bills, and pintails. Certain of the Sarcosporidia have been found to have very toxic properties when fresh, but concerning the possible toxicity after cooking we have no definite information. Since thousands of wild ducks containing these parasites undoubtedly have been eaten and no bad results reported, it is probable that thorough cooking renders them harmless.

Question. Is it practicable to use heaters to protect low-growing crops from frost damage?

Answer. While there have been no extensive experiments conducted to test the effectiveness of heaters in protecting low-growing crops from frost, some recent tests by the Weather Bureau at the mouth of the Columbia River, in the case of cranberries, indicated that it is feasible to protect effectively in this manner, at least in the case of many crops. In these tests the temperature during two frosty nights was raised an average of 4° in a protected plot above that of a similar one unprotected. The damage by frost on the latter was about 15 per cent, while the vines on the plot protected by heaters suffered no loss. The Weather Bureau officials making these tests believe that as good or better results can be had in the case of other low-growing crops.

Question. How much money did the States receive from the national forests for roads and schools as a result of the national-forest receipts for the fiscal year 1925?

Answer. Twenty-five per cent of the total national-forests receipts is distributed to the States containing national-forest land, according to the income

derived from the individual national-forest properties within such States. National-forest receipts for the fiscal year 1925 amounted to \$4,971,815.73, of which \$1,242,953.93 was returned to the various States for road and school purposes.

LIVESTOCK RESEARCH GROWS IN PROMINENCE

(Continued from page 1)

Industry, is project leader for the Department of Agriculture and the cooperating States engaged in these investigations. The National Livestock and Meat Board, composed of representatives of the livestock and meat industry, is actively interested in the projects, as is also the American Society of Animal Production, whose membership is made up of technical workers in the department and agricultural experiment stations.

Wool Research Goes Forward

In a manner comparable to the meat investigations research on wool and hair is going forward. Five agricultural experiment stations and four of the department's experiment farms are engaged in this work. The research deals with the rate of growth of wool during the various months and seasons of the year, together with factors and conditions responsible for the remarkable variations already observed. These studies are accompanied by experiments in breeding to determine how best to produce the most valuable grades of wool.

The wool laboratory of the Bureau of Animal Industry at its experiment farm at Beltsville, Md., is rapidly becoming the best equipped of its kind. State experiment stations have indicated their desire to obtain the benefit of the facilities through cooperation with the department in wool and hair studies.

The feasibility of the new cooperative work outlined already has been established by the success of experiments, begun 6 years ago, dealing with soft pork. Swine raised under different conditions and on different feeds in 9 States have been shipped regularly to the department's abattoir at Beltsville, Md. Technical studies made of the meat have thus become possible on a scale never before attained.

Of interest to poultry raisers throughout the country is the inclusion of poultry and eggs in current animal-husbandry investigations. The studies deal with the inheritance of egg production and hatchability; food value of poultry products, including vitamin determinations; and practical points in poultry husbandry.

Though originally created to eradicate animal diseases and later assigned the work of Federal meat inspection, the Bureau of Animal Industry has fostered animal-husbandry activities since 1901. More recently it has established experiment farms in regions where special problems were pressing. The new cooperative meat and wool studies have lately given great impetus to the animal-husbandry features of the bureau's activities.

Recognizing the increasing importance of these branches of livestock work, Dr. John R. Mohler, chief of the bureau, has given personal attention to arrangements for providing the needed facilities and equipment. Plans also are being made to extend the veterinary work of the bureau to include more fully the application of results to the management of stock on farms. Control of roundworms of swine, stomach worms of sheep, and stock-poisoning plants are problems now being embodied in the animal-husbandry program with a view to extending the beneficial methods developed by the bureau's other specialists.

To aid in providing facilities essential for the extensive and active animal-husbandry program the bureau has leased 1,063 acres of additional land adjacent to the Beltsville farm.

ST. LOUIS U. S. D. A. CLUB

The regular monthly luncheon and meeting of the St. Louis U. S. D. A. Club was held at the American Hotel on December 11. Dr. John V. Nevitt and Glenn F. Wallace, agricultural agents of the agricultural development department, Missouri Pacific Railroad Co., were the guests of honor. Doctor Nevitt gave a very interesting and instructive talk regarding a dairy and poultry promotion show which the Missouri Pacific Railroad Co. staged last fall for a period of nine weeks in an attempt to develop the more backward sections along this line. Lectures and demonstrations were given free to the farmers at county fairs. Two different breeds of cattle and 12 of chickens were carried along as exhibits.

Three entomologists from foreign countries have been in the Bureau of Entomology recently for the purpose of studying its methods of organization and research and certain problems corresponding to problems existing in their own countries. These were Dr. Stapen Soudek, assistant professor of zoology in the University of Brno, Czechoslovakia; Dr. V. V. Nikolsky, of the Moscow Tropical Institute; and Prof. Kota Monzen, of the Imperial College of Agriculture and Forestry at Morioka, Japan.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

PLANES FOR PLANT-DISEASE CONTROL

Dusting has been recognized for several years as an effective means of controlling certain plant diseases. More recently the entomologists have demonstrated that airplanes may be effectively used, particularly in their fight against the cotton boll weevil, in applying dust to large areas of plants. It was then only a logical step forward to test the effectiveness of airplane dusting in the control of plant diseases. The first experiments of this kind were made during the past summer on peaches and cranberries.

The great peach orchards near Fort Valley, Ga., offered favorable subjects for airplane dusting, and it was here that the first tests of the efficiency of airplane dusting in the control of plant diseases were made. A dust consisting of sulphur 80 per cent, lime 15 per cent, and arsenate of lead 5 per cent was applied by airplane and gave apparently satisfactory control of peach scab and brown rot. Although these diseases were not sufficiently destructive on the untreated trees to make the experiments conclusive, the fact that the dust was well distributed and made an even covering over the trees is strongly indicative of success. Whether airplane dusting will actually prove cheaper than the usual dusting equipment in the Fort Valley region remains for further experiment to determine.

The airplane dusting of cranberry bogs undertaken at Pemberton, N. J., during the annual meeting of the American Cranberry Growers' Association, August 26, 1925, was little more than a demonstration of the practicability of so handling an airplane as to give satisfactory distribution of the dust on cranberries.

That copper lime dust will greatly reduce the fruit rots of cranberries has been proven by three years' work with hand dusting machines in Massachusetts. The airplane apparatus at Pemberton indicated that a fairly satisfactory application of dust may be obtained by airplane.

If practicable, airplane dusting offers certain advantages in addition to the speed of the operation over any other known means of applying fungicides to cranberry bogs. In cultivated bogs the cranberry vines cover the ground completely like the grass in a well-kept yard. Ordinary spraying or dusting operations necessitate a certain amount of

trampling which is generally believed to be injurious.

One difficulty encountered in arranging for the demonstration at Pemberton was to find a bog having a satisfactory landing place near by. Few cranberry bogs are located near large open fields. Most large bogs have, however, good-sized reservoirs or ponds near by, and it has been suggested that a hydroplane should be used for dusting cranberry bogs.

Dusting of grapes with sulphur for the control of powdery mildew in the great vineyards of California is being considered and would appear to be practicable.

Whether, when the airplane has been improved and cheapened sufficiently, it will come into general use among the horticultural large fruit-growing areas still remains to be seen.

WITH EXTENSION FORCES

FARM MANAGEMENT WORKERS MEET

The first conference of farm management demonstrators in the Western States was held in Pullman, Wash., November 6-7. Discussions of plans and methods relating to extension work in farm accounting, farm organization, enterprise efficiency, dissemination and utilization of timely economic material, and of aid in extension program building were features of the conference. Different methods of extending farm-management service and of measuring results were discussed and carefully outlined.

Farm-management work now in progress in the States represented in the conference was reviewed.

Outstanding farm and range problems relating particularly to range livestock areas, dry farming and irrigated areas, and to those sections having specialized types of farming were presented for consideration. One problem rather general to these areas was the determination of the minimum size of business and type of organization which will produce an income sufficient to maintain an American farm standard of living. Another was the choice of enterprises possible and the most profitable combination of enterprises. Determination of low cost practices, regional interpretation of outlook material, and adjustment in production and management to meet present and anticipated market and economic conditions, and other problems arising from conditions characteristic of the different areas were studied.

Material which the conference found is needed in the solution of these problems, in addition to information now

available, are national and regional outlook and production trend information on leading enterprises of the West; regional enterprise cost and practice studies; enterprise economic studies; farm-management surveys covering each major type of farming; and summaries of price material and indices on leading enterprises of the West.

Phases of farm management demonstration work recommended for special attention during 1926 were farm enterprise efficiency studies to determine profitable methods of production through analysis of production costs and practices in the important enterprises of a county; farm organization and farm accounting; dissemination of timely economic information; and aid in developing county, regional, and State agricultural programs.

Those attending the conference were T. H. Summers, L. W. Fluharty, R. S. Besse, and R. N. Miller, farm-management demonstrators for Colorado, California, Oregon, and Washington; Director Roud McCann, Colorado extension service; E. C. Johnson, director of the Washington State experiment station; R. M. Turner, assistant extension director, D. G. Magruder, and W. D. Buchanan, specialists in dairying and poultry, Washington extension service; and Neal Johnson, of the rural economics staff of Washington State College; and from the department, C. B. Smith, chief, Office of Cooperative Extension Work, H. M. Dixon and M. L. Wilson, Bureau of Agricultural Economics and Office of Cooperative Extension Work; and W. A. Lloyd and Eugene Merritt, Office of Cooperative Extension Work.

CIVIL-SERVICE ANNOUNCEMENTS

Junior zoologist, \$1,860. A vacancy in the Bureau of Animal Industry, Washington, D. C., and vacancies in positions requiring similar qualifications for duty in Washington, D. C., or elsewhere, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 30, 1926.

Plant quarantine inspector, \$1,860. Vacancies under the Federal Horticultural Board, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications, will be filled from this examination. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 30, 1926.

BRIEF REVIEWS OF NEW BULLETINS

Tests of Barley Varieties in America. By Harry V. Harlan, agronomist in charge; Mary L. Martini, assistant botanist; and Merritt N. Pope, associate agronomist, barley investigations, office of cereal investigations, Bureau of Plant Industry. Pp. 219, pls. 3, figs. 10. November, 1925. (Department Bulletin 1334.) Price, 30 cents.

In this bulletin the authors have attempted to gather together all the available material on the experimental work with barley in America. Many importations of barley have been made since its first introduction by the early colonists. Several varieties from many parts of the world have been tried and discarded by individuals and experiment stations. Already the results of many tests have been lost because of no permanent recording of them in a publication of this kind. Cereal breeding is entering on a new basis, say the authors, and that is one more reason why the present summary of the pioneer work was thought to be of value. The bulletin gives the results of barley tests at the various stations in the United States and Canada in so far as they were available, and should be of interest and value to agronomists.

Foot-Rot Diseases of Wheat in America. By Harold H. McKinney, pathologist, office of cereal investigations, Bureau of Plant Industry. Pp. 40, pls. 4, figs. 5. November, 1925. (Department Bulletin 1347.) Price, 10 cents.

Two of the better understood foot-rot diseases, the take-all disease of wheat caused by the organism *Ophiobolus graminis* and the foot-rot caused by *Heminthosporium sativum*, are discussed in this bulletin. Although further study is required before these diseases are fully understood, it has been possible during the past five years to obtain data and make observations which assist considerably in the matter of clarifying some of the problems involved in the general problem of wheat foot rots. On the basis of present knowledge it is clear that the control of the foot rots depends not on one method but on several. Seed treatments and the selection of clean seed will tend to prevent the spread and increase of the parasites.

Barley: Culture, Uses, and Varieties. By Harry V. Harlan, agronomist in charge of barley investigations, office of cereal investigations, Bureau of Plant Industry. Pp. 33, figs. 10. October, 1925. (Farmers Bulletin 1464.) Price, 5 cents.

Because barley is well suited to certain sections of the country that are not growing the crop in as great acreage as might be done with profit, the department has prepared this bulletin for furnishing available information on the crop. The publication is intended to give a brief statement of the barley areas and the culture and uses of the crop in such a way as to enable the farmer to decide whether or not it is to his individual advantage to grow barley on his farm.

ADDITIONAL PUBLICATIONS

Farm Animals and Their Products. Compiled by the Bureaus of Agricultural Economics and Animal Industry. Pp. 166. (Separate 909, Yearbook 1924.) Price, 20 cents.

Journal of Agricultural Research. Vol. 31, No. 5. September 1, 1925. Contents: The Minimum Temperature for Growth of the Date Palm and the Absence of a Resting Period. (G-476.) By Silas C. Mason.—Partial Thermotaxis of the Growth Center

of the Date Palm (G-477.) By Silas C. Mason.—The Inhibitive Effect of Direct Sunlight on the Growth of the Date Palm. (G-478.) By Silas C. Mason.—An Improved Method of Computation of Net Energy Values of Feeding Stuffs. (Pa-14.) By Max Kriss.—Identity of the Mealbug Described as *Dactylopius calceolariae* Maskell. (K-153.) By Harold Morrison. Pp. 401-506, ill. Price, 20 cents.

NOTE.—Volumes 1 to 6 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. Publication was resumed January 6, 1923, with volume 23. Volumes 23 to 28 were published weekly. Beginning with volume 29, July 1, 1924, the Journal has since been published semimonthly. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It is not sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5 per year. Single copies sell for 20 cents domestic and 25 cents foreign price.

Miscellaneous Agricultural Statistics. Compiled by the Bureau of Agricultural Economics, Bureau of Public Roads, Bureau of Biological Survey, Bureau of Chemistry and the Weather Bureau. Pp. 131. (Separate 912, Yearbook 1924.) Price, 15 cents.

Monthly Weather Review. Volume 53, No. 9, September, 1925. Pp. 379-421, ill. Special articles: Some observations on the cyclonic precipitation of February 22-23, 1925, in the central and eastern United States. By R. H. Weichtman.—Meteorological aspects of the San Francisco-Hawaii airplane flight. By Thomas H. Reed.—Further study of the relation between cover crops and orchard temperatures. By Floyd D. Young.—The three to a three-and-a-half year periodic pressure oscillation in the free atmosphere. By Franz Baur.—Rainfall probability during the fire season in western Washington and Oregon. By Thornton T. Munger.—Record of dry spells at Nashville, Tenn., 1871-1925. By Roscoe Nunn.—A new type of rain filter. By E. N. Hibbard.

NOTE.—The monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Report of the Chief of the Office of Experiment Stations, 1925. Pp. 15.

Report of the Chief of the Bureau of Public Roads, 1925. Pp. 44.

Report of the Solicitor, 1925. Pp. 17.

Service and Regulatory Announcements. Bureau of Chemistry. No. 203. Notices of Judgment 13601-13650. Pp. 313-341. December, 1925. Price, 5 cents.

Insecticide and Fungicide Board. No. 53. Notices of Judgment 1001-1025. Pp. 1229-1248. December, 1925. Price 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of December 7-12, 1925. Copies of these publications may be obtained from the stations issuing them.

Report on inspection of commercial fertilizers, 1925. E. M. Bailey. (Connecticut State Sta. Bul. 270, pp. 30. Oct. 1925.)

Results of wheat variety tests on the Purdue-Vincennes Experiment Farm, Vincennes, Indiana, 1924-1925. A. Goss. (Indiana Sta. Prog. Rpt. 1, pp. 6, figs. 3. July, 1925.)

Some important grape insects. L. G. Gentner. (Michigan Sta. Spec. Bul. 148, pp. 19, figs. 14. Oct. 1925.)

The Fruiting habits and pruning of the Concord grape. N. L. Partridge. (Michigan Sta. Tech. Bul. 69, pp. 39. Oct. 1925.)

Net requirements of crops for irrigation water in the Mesilla Valley, New Mexico. L. W. Bloodgood and A. S. Curry. (New Mexico Sta. Bul. 149, pp. 48, figs. 17. June, 1925.)

The relative feeding value and cost of milk in egg production. A. L. Walker. (New Mexico Sta. Bul. 150, pp. 32, figs. 4. June, 1925.)

Control of the cabbage maggot in the seedbed. H. Glasgow. (New York State Sta. Bul. 512, pp. 112, pls. 13, figs. 3. Feb., 1924.)

A simplified type of milking machine. F. L. Mickle. (New York State Sta. Bul. 524, pop. ed., pp. 7, figs. 4. Feb., 1925.)

Susceptibility to dust and spray mixtures of the pear psylla (*Psylla pyricola* Förster). F. Z. Hartzell. (New York State Sta. Bul. 527, pp. 123, pls. 12, figs. 10. July, 1925.)

The amended New York seed law and seed testing. M. T. Munn. (New York State Sta. Bul. 528, pp. 22, figs. 5. July, 1925.)

Investigations of the control of pear psylla. F. G. Mündinger. (New York State Sta. Bul. 529, pp. 36. July, 1925.)

Composition and cost of commercial feeding stuffs in 1924. A. W. Clark, W. F. Walsh, M. P. Sweeney, and M. G. Moore. (New York State Sta. Bul. 530, pp. 36. July, 1925.)

The micrococci associated with dairy utensils. A. H. Robertson. (New York State Sta. Tech. Bul. 112, pp. 18. July, 1925.)

Viscosity, surface tension, and whipping properties of milk and cream. A. C. Dahlberg and J. C. Henning. (New York State Sta. Tech. Bul. 113, pp. 42, pls. 4, figs. 2. Aug., 1925.)

Forty-fourth annual report [of the New York State Station] for the fiscal year ended June 30, 1925. R. W. Thatcher. Pp. 51.

Flax flax. T. Stoa. (North Dakota Sta. Circ. 26, pp. 8, figs. 2. Nov. 1925.)

The red-banded leaf-roller. S. W. Frost. (Pennsylvania Sta. Bul. 197, pp. 27, figs. 6. Aug., 1925.)

Biometrical studies of lint and seed characters in cotton. G. N. Stroman. (Texas Sta. Bul. 332, pp. 20, figs. 2. Aug., 1925.)

Heritable chlorophyll deficiencies in seedling cotton. G. N. Stroman and C. H. Mahoney. (Texas Sta. Bul. 333, pp. 22, figs. 3. Aug., 1925.)

Commercial fertilizers in 1924-1925. G. S. Fraps and S. E. Asbury. (Texas Sta. Bul. 335, pp. 46. Sept., 1925.)

Production of sweet-potato seedlings at the Virgin Islands Experiment Station. J. B. Thompson. (Virgin Islands Sta. Bul. 5, pp. 14, pls. 3, figs. 2. Dec., 1925.)

The Rhizoctonia disease of potatoes. B. F. Dana. (Washington Col. Sta. Bul. 191, pp. 78, figs. 13. Aug., 1925.)

Studies in apple storage. O. M. Morris. (Washington Col. Sta. Bul. 193, pp. 44, figs. 16. Sept., 1925.)

Crops for new lands on irrigation projects in Washington. H. P. Singleton. (Washington Col. Sta. Pop. Bul. 132, pp. 22, figs. 9. Sept., 1925.)

Fertilizer experiments.—Methods of application and effect on germination, early growth, hardness, root growth, lodging, maturity, quality and yield. E. Truog, H. J. Harper, O. C. Magstad, F. W. Parker, and J. Szykora. (Wisconsin Sta. Research Bul. 65, pp. 56, figs. 12. Oct., 1925.)

CHICAGO U. S. D. A. CLUB

The November meeting of the Chicago U. S. D. A. Club was held in the form of a banquet at Armour's general office, Union Stock Yards, at 5.30 p. m., on December 3. This meeting was especially arranged during the International Livestock Exposition in order that the Chicago club members might have an opportunity of meeting the out-of-town employees of the department who were in Chicago at the time. Dr. C. W. Warburton, director of extension work, was the principal speaker. Vocal and instrumental music was furnished by members of the Bureau of Animal Industry. There were 15 members and 19 visitors present.

PRINCIPAL LIBRARY ACCESSIONS

HORTICULTURE

Abrial, Cl. Culture de la rhubarbe française, Lons-le-Saunier, L. Declume, 1925. (France. Office national des matières premières végétales pour la droguerie et la parfumerie. Travaux. Notice no. 21.)
De La Mare, A. T. company, inc. Cultural directions. New York, 1916.

DOMESTIC ANIMALS

Böhm, Reinrich. Die lehre vom zahnalter des pferdes im altertum und mittelalter. Leipzig, A. Edelmann, 1925. Inaug.-diss.
Wentworth, E. N., and Ellinger, T. U. H. Progressive sheep raising. Chicago, Armour's livestock bureau, 1925.

VETERINARY MEDICINE

Bubberman, Cornelis. Rapport ontrent een reis naar Australië ter bestudeering van veerteensindkundige toestanden. Weltevreden, Landsdrukkerij, 1925.
Gt. Brit. Ministry of agriculture and fisheries. Foot-and-mouth disease research committee. 1st progress report. London, 1925.

EXPLOSIVES

Du Pont de Nemours, E. I., powder company. Farmers' handbook of explosives. Wilmington, Del., 1925.

LAUNDRY

Parker, R. G. The control of laundry operations. London, British launders' research association, 1925.

PRINTING

New York times. Newspaper advertising typography. New York, 1925.

ENGINEERING AND BUILDING

Blaisdell, A. H., and Estep, T. G. Problems in thermodynamics and steam power plant engineering. New York, Wiley, 1925.
North Carolina pine association. Farm and building book. Norfolk [Va., 192-].

INSECTICIDES

Juillet, Armand, and Diacono, H. Essai de destruction du pou de corps ou de vêtements "*Pediculus corporis*" de Geer par les émulsions savonneuses d'oléoépine de pyréthre de Dalmatie. Paris, 1925. (France. Office national des matières premières végétales pour la droguerie et la parfumerie. Travaux. Notice no. 20.)

CHEMISTRY AND TOXICOLOGY

Kohle, Eugene. Toxikologische versuche mit yatrien. Freudenstadt, O. Kaupert, 1925. Inaug.-diss.—Leipzig.
Masson, J. L. O. Three centuries of chemistry, phases in the growth of a science. London, E. Benn, 1925.
Morse, Withrow. Applied biochemistry. Philadelphia, W. B. Saunders, 1925.
Wittig, W. F. Ein beitrage zur kenntnis der wasserstoffionkonzentration im rindharn. Leipzig, A. Edelmann, 1925. Inaug.-diss.

ZOOLOGY

Fülleborn, Friedrich. Über die durchlässigkeit der blutkapillaren für nematodenlarven. Leipzig, J. A. Barth, 1925. (Beihefte zum Archiv für schiffs- und tropenhygiene pathologie und therapie exotischer krankheiten, bd. 29, beih. 3.)

BOTANY AND FORESTRY

Candollea. Organe du Conservatoire et du Jardin botanique de la ville de Genève. v. 1. Genève, 1922-24.
Guppy, E. L. The story of the sequoias. Pasadena, Calif., Post printing and binding co., 1925.
Tahourdin, C. B. Native orchids of Britain. Croydon, H. R. Grubb, 1925.

ECONOMICS AND STATISTICS

China. Ministry of finance. Bureau of markets. Remarks on revision of the table of prices in Shanghai, 1925. Explanations of the index numbers of import and export prices in Shanghai. Shanghai, 1925.

Crum, W. L., and Patton, A. C. An introduction to the methods of economic statistics. Chicago, A. W. Shaw, 1925.
International labor office, Geneva. Methods of compiling cost of living index numbers. Report prepared for the 24 international conference of labour statisticians (April 1925). Geneva, 1925. (Studies and reports. Series N (Statistics) no. 6).
International labor office, Geneva. Economic barometers. (Report submitted to the Economic committee of the League of nations.) Geneva, 1924. (Studies and reports. Series N (Statistics) no. 5).
Metzgen, M. S. The handbook of British Honduras. London, West India committee, 1925.
Rome. Ordinances, etc. Regolamento speciale per il mercato delle frutta, dei legumi e degli erbaggi. Roma, L. Cecchini, 1924.

PERIODICALS CURRENTLY RECEIVED

Coleoptera: études sur les insectes coléoptères [quarterly] v. 1, fasc. 1; Paris, 1925.
Die Milch-Industrie; zeitschrift für maschinen- und gerätekunden der milchwirtschaft und deren nebenbetriebe [monthly] Jahrg. 1925, no. 1; May 1925, Berlin.
Ex libris; a journal devoted to the professional interests of business, agriculture, engineering and the social sciences [quarterly] v. 1, no. 1; Nov. 1925, Chicago.
Kyushu imperial university. Dept. of agriculture. Bulteno scienza. v. 1, no. 1; Dec. 1924; Fukuoka, Japan.

Articles by Department Workers in Current Publications

Caudell, A. N. (Entomology). *Pycnoscelus surinamensis* Linnaeus (Orthoptera); on its nymphs and the damage it does to rose bushes. Proceedings of the Entomological Society of Washington, vol. 27, No. 8, pp. 154-157, figs. 2; November, 1925.
Cobb, Leo E. (Biological Survey). Calcium cyanide experiments on rats. Handbook of the American Cyanide Company, vol. 1, section 4, pp. 35, 37. November, 1925.
Cushman, R. A. (Entomology). The synonymy and generic position of two North American ichneumon-flies. Proceedings of the Entomological Society of Washington, vol. 27, No. 8, pp. 164-166. November, 1925.
Edler, G. C. (Agricultural Economics). Summary of field-seed situation. Seed World. December 4, 1925.
Evdenden, J. C. (Entomology). The beetle beetle, a 10-year struggle for supremacy of the lodgepole. American Forests and Forest Life, vol. 31, No. 382, pp. 598-595, illus. October, 1925.
Fink, D. E. (Entomology). Physiological studies on hibernation in the potato beetle, *Leptinotarsa decemlineata* Say. Biological Bulletin, vol. 49, No. 3, pp. 381-406, figs. 13. November, 1925.
Fisher, W. S. (Entomology). Buprestid beetles from the maritime province of Siberia. Sep. No. 2608 from Proceedings of the United States National Museum, vol. 68, art. 7, pp. 1-8. 1925.
Fletcher, A. B. (Public Roads). Impressions of English highway practice. Bulletin of the Permanent International Association of Road Congresses, vol. 14, pp. 165-171. September-October, 1925.
Gahan, A. B. (Entomology). A new encyrtid parasitic in the eggs of *Monellema* (Hymenoptera: Chalcidoidea). Proceedings of the Entomological Society of Washington, vol. 27, No. 8, pp. 167-168. November, 1925.
Goldbeck, A. T. (Public Roads). Design of cement concrete pavements. Canadian Engineer, vol. 49, pp. 575-580. November 24, 1925.
Greene, C. T. (Entomology). A tentative arrangement of the muscoid flies based on the puparia. Proceedings of the Entomological Society of Washington, vol. 27, No. 8, pp. 157-162, pl. 10. November, 1925.
Holm, G. E., G. R. Greenbank, and E. F. Deysher. (Dairying). The effect of homogenization, condensation, and variations in the fat content of a milk upon the keeping quality of its milk powder. Jour. Dairy Science, vol. 8, No. 6, pp. 515-522. November, 1925.
Howard, L. O. (Entomology). The International Entomological Congress at Zurich. Entomological News, vol. 36, No. 9, pp. 286-288. November, 1925.

Lacy, Mary G. (Agricultural Economics). A program for agricultural library work. American Library Association Bulletin, vol. 19, No. 4, July, 1925.
Macdonald, Thomas H. (Public Roads). Highway administration in the United States. Good Roads, vol. 68, pp. 275-277. November, 1925.

Impressions of western highway development and requirements. New Mexico Highway Journal, vol. 3, pp. 4-7. November, 1925.

Meigs, E. B. (Dairying). The energy requirements of dairy cows. II. Is net energy or metabolizable energy the more useful index for practical purposes? Jour. Dairy Science, vol. 8, No. 6, pp. 523-536. November, 1925.

Oberholser, Harry C. (Biological Survey). August and September birds about Washington. Bird-Lore, vol. 27, pp. 407-408. November-December, 1925.

Satterthwaite, A. F. (Entomology). Two new species of Calendra (Col. Curculionidae). Entomological News, vol. 36, No. 9, pp. 269-271. November, 1925.

Sherman, C. B. (Agricultural Economics). Hunting out new markets. American Bankers Association Journal, vol. 18, No. 6, pp. 438, 440-443. December, 1925.

Teller, L. W. (Public Roads). Effect of six-wheeled trucks on pavements. Public Works, vol. 56, pp. 400-404. November, 1925.

Trout, C. E. (Agricultural Economics). What does it cost to raise cotton? Southern Ruralist. December 1, 1925.

White, W., and G. R. Campbell (Dairying). Keeping quality of sweet cream butter as affected by temperature of pasteurization of the cream. Jour. Dairy Science, vol. 8, No. 6, pp. 497-499. November, 1925.

FOURTH CLUB CONGRESS HELD

Between 1,200 and 1,300 boys' and girls' club members were in attendance at the fourth National Club Congress held in Chicago November 29-December 4 in connection with the International Livestock Show. Forty-two States were represented. Educational sight-seeing tours, judging contests, competitive demonstrations, and similar contests were features of the week.

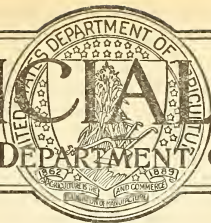
In competitive demonstrations of homemaking activities the Connecticut team won with an "appropriate shoe" demonstration. In the agricultural demonstrations the South Dakota team won first place. The health contests, in which about 25 States were represented, were won by George Kuskadin, of Indiana, and Alice Burkhard, of Iowa. Non-collegiate livestock judging contest was won by Oklahoma. An Oklahoma club girl, Frances Smith, won the Moses leadership trophy. Altogether, 25 States shared in the winnings of the various competitions.

A feature of the club members' own banquet was a style show given by club girls representing their respective States. Both agricultural and homemaking competitive exhibits were shown in the boys' and girls' club building on the grounds of the International Livestock Exposition, and the demonstration and health contests were also held there.

Standardization of wool grades in European countries is but a question of a short time, according to officials of the Bureau of Agricultural Economics.

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SECRETARY CONSIDERS FARM SURPLUSES

Cooperative Marketing Bill Paves Way for Consideration of Problem

Now that the plan to aid cooperative organizations has been placed before Congress, Secretary Jardine plans to direct further attention to the agricultural surplus problem, according to a statement issued by him last Wednesday.

For several weeks the Secretary, aided by cooperative marketing associations, had under consideration a plan for assisting cooperative effort. A bill embodying this plan, and carrying practically the unanimous indorsement of the entire cooperative movement, was introduced in both branches of Congress on December 21.

Opposed to Government Price Fixing

Referring to his discussion concerning surpluses, contained in his annual report, the Secretary repeated that this is one of the major economic problems of the Nation. He remains opposed to any plan of Government price fixing or the handling of farm products by Government agencies or officials, believing that "farmers through their organizations have a most powerful instrument to control the movement of surpluses into consumptive channels."

The Secretary said further that, as things now stand, he believes the most effective machinery to handle the surplus problem exists in the cooperative marketing movement. He feels, moreover, that any sound plan directed to this problem will be practically certain to recognize the cooperative movement and carry the approval of cooperative leaders.

Several Plans Proposed

A number of plans have been proposed which warrant thoughtful attention, according to the statement. These the

Secretary cited as follows: "Former Governor Lowden, of Illinois, has referred to a plan which would have surpluses handled by cooperative organizations assisted by a Federal farm board of parallel importance to the Federal Reserve Board, but in which there would be no governmental price fixing and no buying and selling of farm products under the control of Government officials. Secretary Hoover made an almost exactly similar proposal two years ago with the idea of building up for agriculture the same stability as exists in industry. C. R. Noyes, of St. Paul, also has given a great deal of thought to this question and has worked out the details of a plan. Other proposals have been introduced in Congress and others are in the course of preparation."

Feeling that further thought and the development of a common aim can and should be secured on this vital problem, the Secretary closed his statement by saying that he has decided to call to Washington from time to time a number of leaders who can make valuable contributions to such a plan. He has already issued an invitation to the agricultural editors of the country to come to Washington to discuss the surplus problem, among other things, in order to have the benefit of their knowledge and experience, as reflected in different sections. Other leaders will be called, starting immediately.

PROF. BOSS STUDYING IN DEPARTMENT

Prof. Andrew Boss, chief of the division of agronomy and farm management of the Minnesota College of Agriculture, has come to Washington as consulting specialist and will spend the next few months studying the work now being conducted in the division of farm management and costs of the Bureau of Agricultural Economics. He will make an analysis of the work being done in cooperation with other agencies, with a view to planning more effective coordination of State and Federal activities in the farm-management field. He is on leave from the university.

NARCISSUS BANNED OTHER BULBS ENTER

Secretary Decides Menace of Foreign Pests to Crops Justifies Restrictions

The restrictions on the entry of narcissus bulbs authorized by Secretary of Agriculture Wallace three years ago went into effect as scheduled on January 1 without modification. Other bulbs (eight classes imported in small volume) to which the restrictions were to apply are permitted entry under permit and inspection pending further investigation. This decision was announced by Secretary Jardine December 30 after careful consideration of the situation in the light of evidence submitted at the conference held at Washington in November.

In commenting on his action the Secretary said the information available in 1922 on the entry of pests on these bulbs undoubtedly justified fully the placing of the restrictions, and that the facts obtained since that time have emphasized the menace to agriculture then indicated.

Bulb Flies Not Well Established

"It is unfortunate," he said, "that in protecting our various crops against pests and diseases some interests must suffer. The evidence shows the danger to be such, however, that I feel no one charged with the safeguarding of American agriculture could do other than restrict the entry of these bulbs. I do not doubt the sincerity of those who have reached other conclusions, and I have considered their arguments carefully, but the weight of evidence seems to me to rest in favor of retention of the restrictions."

"The evidence available at present indicates that none of the three important pests usually associated with the imported narcissus bulbs has yet become so well established in the country as to make control measures useless. A re-

view of the present situation indicates that even in the districts where they have gained a foothold they may be materially controlled and possibly eradicated, especially in the case of the two bulb flies. We are going to give these districts a chance to clean up. They have promised to do so, and the department will insist that this be done at the earliest date possible.

"With respect to the two bulb flies, their establishment even on the Pacific coast is far from being general. Taking the plantings as a whole, the percentage of infestation does not amount to more than a fraction of 1 per cent. In the eastern section of the United States the infestation by the lesser bulb fly is still comparatively trivial, and there seems to be no clear record in this section of establishment of the larger bulb fly. At least, it is evident that large producing areas in the eastern United States—some of them going back to colonial days—are altogether free from these pests. It would appear that these regions have a right to protection from them.

"The lesser bulb fly is an important onion pest. In the Pacific Northwest it has already occasioned serious damage in onion plantings. It is important to note that it has not yet reached our chief areas of onion production. Producers in these areas, as well as all other onion producers in the United States, have a right to protection from this hazard.

Eelworm Menace

"There is no question as to the seriousness of the eelworm menace to our alfalfa and clover crops. They have been attacked in certain regions, but the evidence indicates that most of the United States is still free from this pest.

"Of great importance also is the possibility of casual or accidental entry with narcissus bulbs of insect pests which may have little or no economic relation to the bulb industry but may carry a serious menace to other farm crops. For example, some 70 different insects have been intercepted with importations of narcissus bulbs alone, and among these are such well-known injurious pests as the European earwig, already established and proving to be very troublesome in Rhode Island and in the State of Washington, and also various wireworms very destructive to cereals and other crops in Europe.

"The public is naturally interested in the question of the immediate or future availability of the narcissus bulbs. It was brought out at the conference that

there are now planted and growing in the United States some 150,000,000 of these bulbs, nearly double the quantity which is normally imported. Furthermore, the needs for this winter's forcing and next year's planting have already been met by importations of this year which much exceed those of any previous year. There seems, therefore, no justification for a material increase in price."

The retention of the restrictions on the entry of narcissus bulbs, the Secretary pointed out in answer to charges that the Department of Agriculture had been actuated by motives of trade protection, is based exclusively on evidence of insect danger to agriculture and horticulture.

"The plant quarantine act," he commented, "is being administered and will continue to be administered solely for protection against insects and diseases and in no sense as a subterfuge for trade protection. It is true, as has been often declared, that there is a narcissus-bulb industry in this country, part of it dating from colonial times, part of it established since the regulations were announced, and that the restrictions on bulb entry may, temporarily at least, benefit this industry. This fact, however, can not be considered one way or the other in administering the law."

EXTENT OF FOWL TUBERCULOSIS MAPPED

A map prepared by the Bureau of Animal Industry, United States Department of Agriculture, shows the prevalence of tuberculosis among poultry flocks in the United States. Recent developments in the campaign of eradicating the disease from livestock of the country have incriminated chickens as being a rather important source of infection—especially among hogs—in some parts of the country. The map, which was prepared with the assistance of State sanitary officials, is the first of its kind and contains the results of a preliminary survey.

It shows that tuberculous infection among poultry flocks varies from less than 1 per cent in the greater part of the country to more than 15 per cent in certain areas. The regions most seriously affected are in the Central Western States, including parts of Minnesota, Wisconsin, Iowa, Indiana, Ohio, Illinois, and Missouri. There are smaller areas of serious infection in various other States. The Eastern and Southern States, according to the map, have relatively less tuberculosis among poultry flocks than other parts of the country. Avian tuberculosis, as the disease among

fowls is called, occurs chiefly among birds 2 years old or more and can be eradicated by a few simple directions which any poultry owner can follow. A rapid loss of weight, known as "going light," combined with leg weakness is a common symptom, and this suspicion is easily verified by a post-mortem examination. Diseased birds have yellowish or grayish spots on the liver and other internal organs. The department will furnish more detailed information on request. Once the disease is found to exist, eradication includes disposal of infected birds and strict sanitary measures, including disinfection of houses and runs.

The purpose of the map is chiefly to familiarize livestock officials with the extent and seriousness of the infection so far as present knowledge of the subject extends. States and counties are shaded in a manner to show the general situation at a glance. In commenting on the preparation and distribution of the map, Dr. J. A. Kiernan, chief of the tuberculosis eradication division of the bureau, and under whose direction the survey was made, emphasizes that the work is preliminary and that material changes no doubt will be necessary as more data become available.

While the Department of Agriculture does not regard avian tuberculosis as so serious an economic problem as tuberculosis of the larger domestic animals, yet it is a problem that demands attention. Moreover, poultry owners can prevent serious losses of fowls and also reduce tuberculosis of swine by taking pains to burn or bury all birds that die a natural death or are killed because of tuberculous infection.

Owing to the preliminary nature of the avian-tuberculosis map no extensive distribution is planned, but persons who are sufficiently interested may obtain photographic copies. Requests should be addressed to the Tuberculosis Eradication Division, Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

INDIANAPOLIS U. S. D. A. CLUB

The Indianapolis Unity Club held its regular monthly luncheon meeting at the chamber of commerce on Monday, December 14. Patrick J. Kelleher, an attorney who was the guest of honor, spoke to the club on the subject, "Public health and welfare." An invitation to join the club has been extended to Governor Jackson, of Indiana, and it is hoped that he will be present at the January meeting.

Cooperative Marketing Bill Introduced into Congress

Bills for assisting agricultural cooperation along lines agreed on recently at a conference between Secretary of Agriculture Jardine and cooperative leaders have been introduced in the Senate and the House by Senator McNary, of Oregon, and Representative Haugen, of Iowa. The Senate bill is S. 1910 and the House bill H. R. 6240. They would create a division of cooperative marketing in the Department of Agriculture and would authorize the Secretary of Agriculture to call in advisers on cooperative problems. Authority would also be given cooperative associations to acquire, interpret, and disseminate crop and market information.

The duties of the proposed division of cooperative marketing would be to give out information regarding cooperation at home and abroad; to conduct studies of the economic, legal, and financial phases of cooperation; to make surveys of marketing requirements; to employ specialists to analyze economic information and communicate the results of their studies to cooperative associations, and in general to carry on research and service work for the benefit of cooperative associations.

An appropriation of \$225,000 for the fiscal years 1926 and 1927 would be provided for the purposes of the measures. The appropriation of whatever additional sums might be necessary for carrying out the purposes of the act would be likewise authorized. A clause giving cooperative associations authority to "acquire, exchange, interpret, and disseminate past, present, and proposed crop, market, statistical, economic, and other information" is understood to be introduced for the purpose of removing any possible doubt as to the legal right of cooperative associations to use economic information as a guide in attempting to regulate production. These cooperative bills are not agricultural relief measures in any sense, but are designed as a permanent means of promoting the development of agricultural cooperation.

Senator McNary is also author of a bill to create a farmers' export corporation. This measure is similar in principle to the McNary-Haugen bill that was defeated in the 1924 session of Congress. In the title it (S. 1911) is described as a bill "to prevent a recurrence of agricultural depression; to place agricultural commodities on equality under the tariff laws with other commodities; and to place agriculture upon an equality with industry and labor."

Formation of a farmers' export corporation with a capital stock of \$50,

000,000 is provided for in the bill. All the capital stock of the corporation would be subscribed by the Federal Government through the War Finance Corporation. The directors of the concern would be the Secretary of Agriculture and 12 individuals appointed by the President by and with the advice and consent of the Senate. One member of the board would be selected from each of the 12 Federal land-bank districts. Authority would be given the corporation to borrow money and issue notes, bonds, or other evidences of indebtedness up to an amount not exceeding ten times its capital.

Power to purchase surplus agricultural commodities and dispose of them either at home or abroad at the best prices obtainable would be given to the corporation. Any losses suffered in such buying operations would be prorated against the producers by the collection of equalization fees. As a means of giving effect to the operations of the corporation the President would be authorized to put an embargo on the importation of agricultural products when such importation seemed likely to embarrass the corporation's trading activities or to increase its losses.

The central purpose of the bill is expressed in the following clause: "The corporation * * * shall purchase or contract for the purchase at the prevailing market price and hold, export, contract for the export of, or stimulate by premium on exports or otherwise, the export of such basic agricultural commodity or any class or grade thereof, or any food products thereof, the domestic price of which is affected by the world price and affects the domestic price of such agricultural commodity, in amounts necessary to make the tariff on such agricultural commodity operated."

The House has passed a resolution (H. Res. 59) authorizing an investigation into the methods used by certain countries in controlling the production and export of crude rubber, coffee, silk, nitrates, and other raw materials.

Joint investigations by the United States Geological Survey and the Bureau of Soils of the Department of Agriculture to locate potash deposits in this country and to discover important methods of recovering potash from them are authorized in a bill (S. 1821) introduced by Senator Sheppard, of Texas. Senator Capper, of Kansas, is author of a bill (S. 1826) to promote forest conservation, to extend the national forests, and to raise a revenue from forest products.

Senator Heflin, of Alabama, has introduced a number of bills (S. 1795, S. 1796, S. 1797, and S. 1798) providing for

changes in present methods of collecting cotton statistics. Senator McNary has introduced a resolution (S. Res. 92) providing for a Senate commission to investigate crop insurance. He has also reintroduced a "Truth-in-fabric" bill (S. 1618).

Find Chestnut Stumps Have High Tannin Content

Chemists of the leather and paper laboratory of the Bureau of Chemistry have discovered that the stump wood, root wood, and root bark of the American chestnut tree are very rich in tannin. On the average, sound root bark was found to contain more than 30 per cent of tannin and root wood more than 17 per cent. This yield is fully twice as great as that obtained from the trunks and limbs of the tree that now is our most important domestic source of tannin for commercial use.

With reference to the horizontal distribution of tannin, these chemists also found that the edge of the heartwood of the stump and trunk is much richer in tannin than is the central zone of the heartwood. This indicates that, from a given stand of chestnut, slab wood will furnish a higher yield of tannin than will the remainder of the wood.

This work suggests the possibility of increasing our domestic supply of tannin through the commercial utilization of chestnut stumps and roots and slab wood, particularly that selected from trunk and butt logs. It is realized that several factors enter into the economic phase of the commercial utilization of the stumps and that these may outweigh their high tannin content. Among these are labor costs, value and nature of land, method of handling wood supply, quantity of stumps, size and shape of stump and root pieces, with consequent difficulties in transportation and preparation.

DENVER U. S. D. A. CLUB

James Christensen, supervisor of the western division of the Packers and Stockyards Administration, gave a talk on the work of his administration at the December meeting of the Denver U. S. D. A. Club. After Mr. Christensen's talk the following officers were elected for next year: Chairman, Stanley P. Young (Biological Survey); vice chairman, James Christensen (Packers and Stockyards Administration); secretary, H. W. French (Agricultural Economics).



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Alaskan Wild-Life Collections Brought to Department

Olaus J. Murie, associate biologist of the Biological Survey, stationed at Fairbanks, Alaska, is in Washington for the winter engaged in preparing reports on his investigations of the caribou of Alaska. He was a member of an expedition sent by the Biological Survey in the spring and summer of 1925 to investigate the wild life of the western part of the Alaskan Peninsula and Unimak Island, with special attention to caribou herds. A general natural-history survey of the section was made, and specimens of bird, mammal, and plant life were obtained for the biological Survey collections, in cooperation with Dr. John C. Phillips, of Boston, Mass., who financed the expedition.

Unimak Island, 75 miles long and 25 miles wide, the easternmost of the Aleutian Chain, proved to be of special interest in view of the possibility of maintaining it as a big-game refuge, reports Mr. Murie. Shishaldin, Pogromni, and lesser volcanic peaks rise into the clouds in the rugged inland portion of the island. Around their bases roam herds of caribou, and the famous Alaska brown bears inhabit the lava beds, coming down on the tidal flats in midsummer. On the mainland the Grant caribou, once abundant throughout the length of the Alaska Peninsula, have steadily dwindled in numbers until only a remnant survive. On Unimak Island the caribou have fared better and are represented by several thousand animals. This island is particularly well adapted for a game refuge, as big game animals can survive in a place such as this, where there are no economic developments.

Mr. Murie found characteristic northern waterfowl on the low shores of Bering Sea, and visited colonies of sea birds on adjacent rocky islands. In the early spring he made a study of the

brown bear, *Ursus gyas*, in the high mountains near Pavlof Volcano and collected several specimens. Although these bears are still plentiful, the finest old trophies are already becoming scarce in localities where the animals have been persistently hunted. The Alaskan Peninsula will continue to be a lure for sportsmen far into the future, and many are attracted to the region each year.

PRESIDENT GREETES 4-H CLUBS

Christmas greetings have been extended by President Coolidge to the 4-H Club members, Lone Scouts, and Boy Scouts, organizations with which he comes into official relation which are interested in the open country. Recalling his own boyhood experiences on the farm, he expressed belief in the help these organizations afford the boys and girls of the present day. A 4-H club or scout organization, he continues, "brings them into association with each other in a way in which they learn to think not only of themselves but of other people. It teaches them to be unselfish. It trains them to obedience and gives them self-control. A very wise man gave us this motto: 'Do the duty that lies nearest you.' It seems to me that this is the plan of all your organizations. We need never fear that we shall not be called on to do great things in the future if we do small things well at present. It is the boys and girls who work hard at home that are sure to make the best records when they go away from home.

"There is a time for play as well as a time for work," he continued. "But even in play it is possible to cultivate the art of well-doing. Games are useful to train the eye, the hand, and the muscles and bring the body more completely under the control of the mind. When this is done, instead of being a waste of time, play becomes a means of education.

"It is in all these ways," the President concluded, "that boys and girls are learning to be men and women, to be respectful to their parents, to be patriotic to their country, and to be reverent to God. It is because of the great chance that American boys and girls have in all these directions that to them more than to the youth of any other country, there should be a merry Christmas."

FARM PRODUCTS AND FOREIGN MARKETS

American agricultural products are likely to meet with increasing competition in foreign markets because of the agricultural expansion in many European

countries, according to Asher Hobson, American delegate to the International Institute of Agriculture at Rome.

"The dominant note common to European nations," he says, "is self-sufficiency, even though it may be impossible of realization in many cases. Many of the nations which have self-sufficing aspirations were satisfied before the war to depend upon other countries for a considerable portion of their agricultural supplies.

"One can not say whether this is a temporary aftermath of the war or the beginning of a lasting situation. In some countries it is in the form of an agricultural tariff such as exists in Germany and in Italy. In other countries it may be a subsidy such as the wheat monopoly in Switzerland or the one proposed in connection with the plowed-land area in England.

"There is a still more important and subtle barrier to our own products in some foreign lands. In many countries American agricultural products are likely to meet with increasing opposition in the form of good-will propaganda for the consumption of home-grown products.

"Another factor is that many nations which are our best customers in the purchase of agricultural products are contracting to repay huge war debts. In general, this payment must come about through increased sales to us and decreased purchases from us. One may guess that a full share of the increased sales and decreased purchases will fall upon the products of American agriculture."

FIRST EXTENSION FORESTERS' MEETING

The State extension foresters will hold their first conference on January 11-13, 1926, in Washington, D. C., to discuss, primarily, policies of forestry-extension work. Methods, means, and agencies of doing forestry extension, and the developing of working plans for carrying out the programs of the different States especially, will be studied. The meetings will be held in the conference room of the Office of Cooperative Extension Work.

Sets of lantern slides illustrating the methods of constructing the principal types of roads have been placed by the Bureau of Public Roads in its district offices at Portland, Oreg., San Francisco, Calif., Ogden, Utah, and Denver, Colo. The slides are in six sets and are intended for use in engineering schools and colleges. Complete information with regard to the slides and how to obtain them can be secured from the Washington office or the above district offices of the bureau.

QUESTIONS AND ANSWERS

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct

Question. In the administration of the pure food and drugs act are there standards for regulating the quality and quantity of the different ingredients in sausages of various kinds?

Answer. Under the meat inspection act approved by Congress June 30, 1906, the kind and percentage of ingredients other than meat and meat food products, such as cereal and starch, in sausage are regulated without reference to the various kinds of sausage.

Question. Why is hard-wheat flour preferred for making yeast breads and soft-wheat flour for quick breads, pastry, and cake?

Answer. Yeast breads can be made more easily and oftentimes more successfully from the so-called strong flours milled from hard wheat. This is because they contain a comparatively large quantity and high quality of gluten, the substance that enables the dough to stretch and hold within it the gas bubbles formed by the yeast during fermentation. Soft-wheat flours, on the other hand, contain less gluten, and it does not have the elastic qualities of that in hard wheat. However, for cake, pastry, and quick breads, in which tenderness is of prime importance, this is desirable. The home maker can, if she desires, make good yeast bread from soft-wheat flours and cake and pastry from hard wheat by allowing for the weakness of the gluten in one case and the strength in the other. It will pay in the long run, however, to reserve the hard-wheat flours for products in which the superior gluten is needed. Hard-wheat flours are now at a premium and are likely to bring a steadily increasing price.

Question. Are fabrics of one color more likely to fade than those of another?

Answer. It is a common fallacy that green, lavender, or some other color is less fast than blue or pink. Fastness depends on the chemical composition of the dye used, not on the color. Dye-stuffs are grouped into various classes according to their composition, and the dyes in some classes are more fast than those in others. Thus, a green, blue, or any other fabric may have received its color from any one of a number of different dyestuffs varying widely in permanency. Without knowing just what kind of a dye was used—and it is practically impossible for the consumer to tell this—the fastness of color in two fabrics can not be predicted. A dye that

is one of the poorest of its class may have been used on one of the fabrics, while the other may have been dyed with one of the best. Green, lavender, or any one color is just as fast as another if similar dyes are used.

Question. What benefits have resulted from the enforcement of the seed importation act?

Answer. Before the enforcement of the seed importation act the United States was the dumping ground for seed screenings containing large proportions of weed seeds and dead seeds which did not find a ready sale in Europe. This worthless material can not now be brought into the United States.

EXTENSION NEWS NOTES

CHANGES IN PERSONNEL

Arizona.—R. B. Coglon, county agent in Yuma County, has resigned to accept a position in the Missouri extension service, beginning January 1, 1926. J. P. Sexton, jr., has been appointed county agent in Santa Cruz County to succeed Lee H. Gould, resigned.

Arkansas.—J. S. Knox, county agent in Howard County, and J. L. Phillips, county agent in Perry County, have resigned. Mrs. Belle H. J. Robinson has been appointed district home demonstration agent for northeast Arkansas to succeed Alice Bridges, resigned, and Mrs. Sallie Chamberlin Butler, district home demonstration agent, resigned, has been succeeded by Mae Blakely. Ann McGill has been transferred from Little River County to Hot Springs County as home demonstration agent to take the place of the latter, and Ethel Owen has been appointed home demonstration agent in Ashley County.

FORTHCOMING EVENTS

A banker-farmer school will be held by the Arkansas extension service in January at Little Rock. Plans are being made for 60 or more extension schools to be held in various counties in January and February.

NEW DEVELOPMENTS

The Arkansas extension service, in cooperation with the Arkansas Bankers' Association, is conducting an intensive campaign for permanent pastures, with Bermuda or carpet grasses as the basic grasses. The slogan of the campaign is "Pastures that pay."

A farm-record club of seven members, the second club of its kind in the State, was formally organized by the Multnomah County, Oreg., club leader this year. According to the work out-

lined, each boy keeps a definite farm record of his parents' farm, including an inventory at the beginning and close of the year and all cash receipts and expenses. At the end of the year they will summarize the record book, making a financial statement showing profits and loss for the year.

The Tillamook County Farm Record Club, which has completed more than one year's work, gave a demonstration before the Oregon State Bankers' Association at Corvallis in June. The president of the association stated that the farm-record club demonstration was, in his mind, the outstanding accomplishment of the meeting. The subjects covered by the demonstration were: "The farm inventory," "A study of our farm layout," and "What we expect to get out of our records." Each subject was discussed by a member of the farm-record club, and the farm-management demonstrator followed with a talk on the subject of the farm record as a means of teaching adult farmers the fundamentals of farm management.

FIRST NEGRO CLUB CONFERENCE

The first annual conference for Negro boys' and girls' club members was held at Tuskegee Institute, Alabama, December 8-10. Teams of club members from Alabama, Mississippi, and Oklahoma, accompanied by their local demonstration agents or other extension workers from these States, were registered. There were also visitors from extension services of other States who plan to take part in next year's conference.

Competitive judging and demonstrating by teams of club members, tours about the campus to points of interest in Tuskegee Normal and Industrial Institute, games on the athletic grounds, and talks by visitors and faculty members were features of the three-day session.

Contests in judging poultry, swine, and sweet potatoes were won by Oklahoma club members; dairy cattle judging, by an Alabama team; that in seed-corn judging, by Mississippi. Alabama lead in the plowing contest and Mississippi in milking. Alabama girls won both cooking and sewing contests. The health contest was won by a Mississippi girl. Tuskegee Institute provided both quarters and meals for the club members and extension workers accompanying them.

Visitors at the conference, in addition to members of the extension services, were S. W. Keigwin, commissioner for native development in the British possessions of Africa; Dr. and Mrs. H. R. A. Philip, missionaries from Rhodesia, South Africa; and Stephen G. Krishnaya, Madras, India, at present a student in Columbia University, New York.

DO YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week

JAPANESE BEETLE CONTROL WORK

The Japanese beetle was discovered near Riverton, N. J., a short distance from Philadelphia, in 1916. By the early summer of 1925 it had infested 5,122 square miles. It attacks the foliage and ripening fruit of the apple, peach, grape, plum, cherry, and other fruits, and the foliage of the elm, linden, horse chestnut, maple, and other deciduous trees. It also feeds on several vegetable crops, such as sweet corn and beans. In the grub stage in the soil it damages lawns, golf courses, and pastures. It is most serious as a fruit pest, especially on the early-ripening varieties. The beetles leave the ground in early June and live from 8 to 10 weeks. They are most active in hot, dry weather and are capable of covering several miles in a flight.

The Bureau of Entomology, cooperating with the State departments of agriculture of New Jersey, Pennsylvania, and Delaware, has been maintaining the Japanese beetle project to prevent the long-distance spread of the insect and to perfect measures for combating it. Quarantines were established in 1919, and since then all produce, nursery stock, and other articles likely to carry the insect have been inspected. Philadelphia is the center of a large nursery area. Because Japanese beetle grubs may be carried in soil about the roots of nursery stock, its movement had to be restricted until a satisfactory method of treating such soil could be devised. This has been accomplished, and last spring more than 30,000 evergreens and perennial plants were treated under the supervision of department inspectors. Large quantities of molding sand from New Jersey are fumigated to free it from infestation before it is shipped outside the infested area. The quarantine on nursery stock is effective throughout the year.

The farm-products quarantine, which restricts the movement of sweet corn, beans, peas, carrots, beets, and onions with tops, cabbage, lettuce, unthreshed grain, hay, straw, and forage crops, is in effect from June 15 to October 15. Sweet corn has been found the most likely beetle carrier. During the summer of 1925, 106,832 beetles were removed from about 25,000,000 ears of corn.

When the beetles first began to damage fruits, spraying with the usual proportions of arsenate of lead was tried

and found unsatisfactory. Stronger dosages killed less than 20 per cent of the beetles, the rest being repelled. Special substances, known as "stickers," have now been devised. They hold the arsenical on the foliage longer and render it more attractive, so that the insects eat it more readily. They consist of an insoluble soap, such as lead oleate, or a fatty acid such as oleic, combined with the arsenate of lead. One application of such a spray made between June 20 and 25 usually protects the plants for the season. Arsenicals are, of course, stomach poisons, but investigations by E. R. Van Leeuwen have resulted in the development of a contact spray which kills 100 per cent of the beetles actually hit by it. This consists of an oleoresin of pyrethrum, emulsified in water. An excess of the emulsifier, sodium oleate, is used in order to increase the insecticidal value of the spray.

Three years ago an attempt was made to find a material which would be decidedly attractive to the beetles and which could be combined with a poison spray. Sassafras oil from one of the beetle's favorite food plants was found decidedly attractive, and it has been shown that the beetles can be drawn to plants on which they do not normally feed by spraying such plants with dilute mixtures of the oil. This led to a study of the constituents of sassafras and other essential oils and it was found that geraniol was the constituent which caused the attraction. By using dilute mixtures of geraniol beetles in large numbers can be attracted for a distance of one-half mile, concentrated on plants in a small area, and killed by the contact spray referred to. Traps have been devised which, when baited with geraniol, will capture 3,000 beetles an hour.

Methods have been devised by which golf greens, lawns, and other sod lands can be treated with a dilute emulsion of carbon disulfide so as to destroy the grubs without injury to the sod. These treatments are now being used by several golf clubs, as well as by people whose lawns are heavily infested.

For the last five years the Bureau of Entomology has maintained investigators in the Orient to study, rear, and ship to this country such parasites of the Japanese beetle as appear to offer possibilities of establishment here. Several have already been introduced, and a tachinid fly, *Centeter cinerea*, has been established in New Jersey and Pennsylvania, and at the close of 1924 occupied about 12 miles of territory. During 1925 it increased its area to some 40 square miles. Large numbers of other parasites are being brought in.

The progress which has been made in restricting the spread of the Japanese

beetle is most encouraging and, with one exception, the insect has been confined to a specific area in the States of New Jersey, Pennsylvania, and Delaware, although it is slowly spreading. In 1924 three beetles were found on an island in the Susquehanna River near Milton, Pa., about 100 miles from the main infestation. After an extermination campaign at this point no beetles have been found.

The control methods developed, particularly the use of improved "stickers" and spreaders for arsenical sprays and of a contact spray, will prove of great value and the parasites promise to be of assistance.

WITH EXTENSION FORCES

MAKING A BUSINESS OF "SWEEPSTAKES"

An informal association of 15 farmers has been growing and selling West Branch Sweepstakes seed corn in the Pennsylvania county where this variety was originated, Lycoming, almost from the time it was made available. New England farmers have been buying it, as they found it a variety which would produce good silage in that climate. At first, the ordinary good corn-growing methods generally practiced in that section were considered by the producers all that was necessary in the seed-corn business. But competition became keener, and the 15 took counsel with County Agent W. H. Van Sant on what might be done. They liked growing seed corn and they wanted to succeed in their enterprise.

Out of their counseling came the decision that in order to maintain and increase the demand for "Sweepstakes" seed it would be necessary to constantly increase the quality. The county agent promised to help with the "how," and arranged for cooperation with specialists from the State extension service.

As a first step one of their members agreed to grow a corn-breeding plot to help in standardizing the most desirable characteristics of the variety. The next season all members of the association planted seed from this breeding plot. This effort toward improvement of type has continued, different members occasionally having charge of the plot. Marked progress in output of a uniform product has been made.

Then they added a germination test for each crib to be sold and only corn in good condition and testing 90 per cent or better in the spring is considered as coming up to "Sweepstakes" standards.

This year they are studying better curing and storage facilities to guarantee an even more dependable product for the market they have developed. In addition, 200 or more neighboring farmers have acquired so much skill in corn seed practices through the association's demonstrations that they are being seriously considered for membership, with perhaps a more formal organization to take care of the growing business.

BRIEF REVIEWS OF NEW BULLETINS

Production of Sweet-Potato Seedlings at the Virgin Islands Experiment Station. By J. B. Thompson, director. Pp. 13, pls. 3, figs. 2. December, 1925. (Virgin Islands Agricultural Experiment Station Bulletin 5.) Price, 10 cents.

In an attempt to develop improved varieties of sweet potatoes from seed the Virgin Island Station has produced over 1,800 seedlings, of which about 1,100 reached maturity, and 240 have been grown for two or more years. A number of these seedling varieties give promise of economic value. Seed production is very variable even in varieties of good seedling habits. Germination of untreated seed was very irregular, but was improved by scarifying. The yield of the original seedling has not proved to be a reliable index of the productivity of its progeny. Methods for determining the productivity of a variety and eliminating unpromising seedlings, as well as for classifying seedlings in the field, are given. The characteristic color of the interior of the roots was found to be uniform for roots of the same hill, but could be modified or eliminated by selective breeding.

ADDITIONAL PUBLICATIONS

Weather Conditions and Forest Fires in California. By S. B. Show, silviculturist, and E. I. Kotok, forest inspector, Forest Service. Pp. 24, figs. 9. July, 1925. (Department Circular 354.) Price, 5 cents.

Report of the Chief of the Bureau of Animal Industry, 1925. Pp. 40.

Report of the Chief of the Bureau of Dairying, 1925. Pp. 18.

Report of the Director of the Extension Service, 1925. Pp. 23.

Report of the Forester, 1925. Pp. 51.

Report of the Grain Futures Administration, 1925. Pp. 32.

Report of the Librarian, 1925. Pp. 16.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 223. November, 1925. Pp. 101-107. December, 1925. Price, 5 cents.

Bureau of Chemistry. No. 204. Notices of Judgment 13651-13700. Pp. 343-365. December, 1925. Price, 5 cents.

Bureau of Chemistry. No. 205. Notices of Judgment 13701-13750. Pp. 367-397. December, 1925. Price, 5 cents.

Federal Horticultural Board. No. 84. July-September, 1925. Pp. 63-81. December, 1925. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of December 4-19, 1925. Copies of these publications may be obtained from the stations issuing them:

Bark diseases of citrus trees in California. H. S. Fawcett. (California Sta. Bul. 395, pp. 61, figs. 18. Oct., 1925.)

Manufacture of Roquefort type cheese from goat's milk. S. A. Hall and C. A. Phillips. (California Sta. Bul. 397, pp. 20, figs. 11. Nov., 1925.)

The location and longevity in calves of *Bacterium abortus* inoculated with milk and its effect on the agglutination titre of their blood. G. H. Hart and G. M. Woods. (Hilgardia [California Sta.], vol. 1, No. 10, pp. 203-226. Nov., 1925.)

Physiological aspects of soil solution investigations. D. R. Hoagland. (Hilgardia [California Sta.], vol. 1, No. 11, pp. 227-257. Nov., 1925.)

What the Illinois farmer can do to learn about his soils. E. E. DeTurk. (Illinois Sta. Circ. 302, pp. 8, figs. 4. Nov., 1925.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and J. Bower, jr. (Massachusetts Sta. Met. Bul. 443, pp. 4. Nov., 1925.)

Growth of lettuce as influenced by reaction of culture medium. J. W. Crist. (Michigan Sta. Tech. Bul. 71, pp. 25, figs. 3. Oct., 1925.)

The present status of the European corn borer in Michigan. R. H. Pettit. (Michigan Sta. Circ. 70, pp. 14, figs. 14. Nov., 1925.)

The Quarterly Bulletin. (Michigan Sta. Quart. Bul. vol. 8, No. 2, pp. 59-94, figs. 9. Nov., 1925.)

Thirty-seventh annual report of the agricultural experiment station of the Michigan Agricultural College under the State Hatch and Adams Acts for the year ending June 30, 1924. Pp. 159-1024, figs. 359.

Economic aspects of local potato warehouse organization. J. D. Black, B. A. Holt, and G. M. Peterson. (Minnesota Sta. Tech. Bul. 28, pp. 76, figs. 17. Sept., 1925.)

Pruning the bearing apple tree. R. H. Roberts. (Wisconsin Sta. Bul. 378, pp. 36, figs. 30. Oct., 1925.)

Articles by Department Workers in Current Publications

Barnes, W. C. (Forest Service). Muskrat farming for the boys. *Breeders' Gazette*, December 3, 1925.

— Meeting emergencies with common sense. *American Motorist*, December 1, 1925.

Beckwith, Anne and Alan Leighton (Dairying). Actual temperatures attained by mediums in autoclave sterilization. *Jour. Infect. Diseases*, vol. 37, no. 4, pp. 353-358. October, 1925.

Bishop, E. C., R. C. Roark, D. C. Parman, and E. W. Laake (Entomology). Repellents and larvicides for the screw worm and other flies. *Jour. of Economic Entomology*, vol. 18, no. 6, pp. 776-778. December, 1925.

Burch, D. S. (Animal Industry). A training camp for agriculture. *Hoard's Dairyman*, vol. 70, no. 23, p. 726. December 18, 1925.

Cook, G. H. (Forest Service). Christmas at Cedro. *American Forests and Forest Life*, December, 1925.

Ewing, H. E. (Entomology). Sulphur-impregnated clothing to protect against chiggers. *Jour. of Economic Entomology*, vol. 18, no. 6, pp. 827-829, pl. 7. December, 1925.

Fisher, W. S. (Entomology). A new species of *Sambus* from Manila (Coleoptera; Buprestidae). *Philippine Journal of Science*, vol. 28, no. 1, pp. 45-46. September, 1925.

Gill, T. H. (Forest Service). The Harvard forest: A two-thousand acre textbook. *Nature Magazine*, November, 1925.

Greenbank, G. R., and G. E. Holm (Dairying). Measurement of susceptibility of fats to oxidation. *Indus. and Engin. Chem.*, vol. 17, no. 6, p. 625. June, 1925.

Hamlin, J. C., and C. Benton (Entomology). Control of the saw-toothed grain beetle in raisins: A preliminary report. *Journal of Economic Entomology*, vol. 18, no. 6, pp. 790-795, 2 tab. December, 1925.

Hilton, H. C. (Forest Service). Using and conserving timber. *Breeders' Gazette*, December 3, 1925.

Houck, U. G. (Animal Industry). The 1925 endurance ride. *Jr. Am. Vet. Med. Assn.*, vol. 68, no. 6, (n. s. v. 21), pp. 355-364. December, 1925.

Howard, L. O. (Entomology). Walter David Hunter. *Jour. of Economic Entomology*, vol. 18, no. 6, pp. 844-848, port. December, 1925.

McArdle, R. E. (Forest Service). A cannibal fly. *For. L. Bulletin*, December, 1925.

Miller, R. N. (Forest Service). The relation between cooking conditions and yield and quality of sulphite wood pulp. *Paper Trade Journal*, December 3, 1925.

Painter, H. R., C. L. Fluke, and A. A. Granovsky (Entomology). Attractant and poisoned bait experiments on the pellicid grasshopper. *Journal of Economic Entomology*, vol. 18, no. 6, pp. 818-823, 2 tab. December, 1925.

Raffensperger, H. B. (Animal Industry). Giant female ascarid found in swine. *Vet. Med.*, vol. 20, no. 12, p. 598. December, 1925.

Roeser, J., jr. (Forest Service). Bookkeeping in forest management. *Journal of Forestry*, December, 1925.

Schwartz, B. (Animal Industry). A new species of hookworm from a North American raccoon. *Proc. U. S. Nat. Mus.* (2598), vol. 67, Art. 26, pp. 1-4. December 2, 1925.

Sherman, Caroline B. (Agricultural Economics). In search of farm facts: II. The Federal Service. *The Survey* Mid-monthly, vol. 55, no. 6, p. 359. December 15, 1925.

U. S. D. A. CLUB DIRECTORY

Albuquerque Club. Lee J. Reynolds, Extension Service, Albuquerque, New Mexico, secretary.

Baltimore Club. D. M. Walsh, Bureau of Chemistry, Park Avenue Building, corner Park Avenue & Saratoga Street, Baltimore, secretary.

Birmingham Club (Federal Agricultural Technical Association). Meets second Saturday, 8 p. m. Civil Service Room, Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Boston Club. Meets first Tuesday, lunch. No. 12 So. Market St.; R. S. Clifton, Bureau of Entomology, No. 12 So. Market St., Boston, Mass., secretary.

Buffalo Club. Meets third Tuesday, August, October, January, March, May; lunch, various offices of the department; Charles W. Pagle, jr., Bureau of Animal Industry, 25 Live Stock Exchange Bldg., secretary.

Chicago Club. Meets third Wednesday, lunch, Great Northern Hotel; F. C. Helss, Federal Grain Supervisor, General Field Headquarters, 1138 Webster Bldg., secretary.

Cincinnati Club. Meets bimonthly, 3.15 p. m., various offices; W. L. Ingles, Bureau of Agricultural Economics, 63-65 Fisk Bldg., 441 E. Fourth St., secretary.

Columbus Club. Dr. C. J. West, Bureau of Agricultural Economics, secretary.

Denver Club. Meets second Tuesday, lunch 12.15. Denver Chamber of Commerce; H. W. French, Bureau of Agricultural Economics, 214 Live Stock Exchange Bldg., secretary.

Fort Worth Club. V. Cates, Bureau of Public Roads, 1912 F. & M. Bank Bldg., secretary.

Gulf Coast Club. H. D. Money, Bureau of Plant Industry, Biloxi, Miss., secretary.

Houston Club. Meets first Wednesday, lunch, Rice Hotel; L. H. Daingerfield, Weather Bureau, Stewart Bldg., secretary.

Indianapolis Club (Unity Club). Meets second Monday, lunch, Chamber of Commerce Building; E. H. Ackelov, Weather Bureau, 1040 Consolidated Building, secretary-treasurer.

Kansas City Club. Meets third Friday, Chamber of Commerce Building; Ralph A. Lumbard, 212 Railway Exchange Bldg., secretary.

Lausda Club. Meets second Thursday, 3.30 p. m., various offices; Vera M. Spuhler, Forest Service, 223 Customhouse, New Orleans, secretary-treasurer.

Los Angeles Club. Meets second Tuesday; C. B. Beauchamp, 207 Live Stock Exchange Building, Union Stockyards, secretary.

Montgomery Club. L. P. Hughen, Bureau of Public Roads, Shepard Building, secretary.

New Haven Club. Raymond K. Clapp, Extension Service, 301 Federal Building, secretary.

Nyrsday Club. Meets second Wednesday, lunch, Pig and Whistle Inn, Greenwich Village; J. J. McManus, Bureau of Chemistry, Room 1034, 641 Washington Street, New York City, secretary.

Oklahoma City Club. Meets second Monday, lunch, Chamber of Commerce; Dr. E. A. Myers, Bureau of Animal Industry, 1837 West Hickory Street, secretary.

Omaha Club. D. H. Busman, Bureau of Animal Industry, 318 Live Stock Exchange Building, treasurer.

Philadelphia Club. Meets third Wednesday, lunch, Snellenburg's Restaurant; meeting in local offices; Bureau of Chemistry, 134 South Second Street, secretary.

Portland (Oreg.) Club (Portusda Club). Meets first Wednesday, lunch, Chamber of Commerce Building; I. W. Few, Bureau of Agricultural Economics, 515 Post Office Building, secretary-treasurer.

Porto Rico Club (Prusda Club). William P. Kramer, Forest Service, Rio Piedras, Porto Rico, secretary.

San Francisco Club. Meets second Wednesday, lunch, 12.15, Commercial Club, Merchants' Exchange Building; H. P. Dechant, Forest Service, Ferry Building, secretary.

St. Joseph Club. Meets third Thursday, lunch, Transit House; Dr. J. A. Zimmerman, Bureau of Animal Industry, 116 Massachusetts Avenue, South St. Joseph, secretary.

St. Louis Club. Meets second Friday, lunch, American Hotel; L. C. Mitchell, Bureau of Chemistry, 200 E. Customhouse, 3rd and Olive Sts., secretary.

Seattle Club. Meets second Thursday, A. G. Webb, Federal Horticultural Board, 4179 Arcade Building, secretary.

PRINCIPAL LIBRARY ACCESSIONS

DOMESTIC ANIMALS AND VETERINARY MEDICINE

- The Australorp, containing a complete description of the breed. Los Angeles, Key-stone publishing co., 1925.
- Düssler, W. E. Die bekämpfung eiteriger prozesse bei tie, mit dem chinderivat isocetylhydrocuprein (vuzin). Dresden Kunst-anstalt Stengel, 1925. Inaug.-diss.—Leip-zig.
- Gatterdam, Paul. Tierexperimentelle studien an tauben über die bakterizide wirkung des vatrens. Leipzig, A. Edelmann, 1925. Inaug.-diss.
- Krishnamurti Ayyar, V. Nasal granuloma in cattle. Calcutta, 1925. (India. Dept. of agriculture. Memoirs. Veterinary series, v. 3, no. 6.)
- Reinhardt, Richard. Lehrbuch der geflügel-krankheiten. 2. auf. Hannover, M. & H. Schaper, 1925.
- Rühling, F. E. Eine durch streptokokken hervorgerufene kanarienvogelseuche. Leip-zig, A. Edelmann, 1925. Inaug.-diss.

FIELD CROPS

- Mukerji, J. N. The quality and yield of to-bacco as influenced by manual and other operations. Calcutta, 1925. (India. Dept. of agriculture. Memoirs. Chemical series, v. 8, no. 1.)
- Rubner, Max. Die verwertung des roggens in ernährungsphysiologischer und landwirt-schaftlicher hinsicht. Berlin, 1925. (Ger-many. Reichsministerium für ernährung und landwirtschaft. Die volkersernährung. hft. 5)

HORTICULTURE

- Dix, J. F. C. Dutch bulbs, their history and treatment. Haarlem, H. A. van Olphen, 1915.
- National dahlia society. Dahlia year book, 1925. London.

FORESTRY

- Wirt, G. H., and Meek, C. R. Pennsylvania forest fire warden manual. Harrisburg, 1924. (Pennsylvania, Dept. of forests and waters. Bulletin no. 38.)
- Wright, W. G. Statistical methods in forest-investigative work. Ottawa, 1925. (Can-ada. Dept. of the interior. Forestry branch. Bulletin no. 77.)

TRANSPORTATION

- McClellan & Junkersfeld, Inc. Report to pub-lic utilities commission. District of Colum-bia, 1925 transportation survey. New York, 1925. Multigraphed.

TEXTILES

- Manchester guardian commercial. Artificial silk. Manchester, Eng., 1925. (Special number. March 5, 1925.)

GEOGRAPHY

- Smith, J. R. Industrial and commercial geography. New ed. New York, Holt, 1925.

CHEMISTRY

- Klager, Friedrich. Untersuchungen über den enzymgehalt der buttermilch. Freuden-stadt, O. Kaupert, 1924. Inaug.-diss.—Leipzig.
- National symposium on colloid chemistry. 34. Minneapolis, Minn., 1925. Colloid sym-posium monograph. New York, Chemical catalog company, 1925.

ZOOLOGY

- Clark, A. H. Animals of land and sea. New York, Van Nostrand, 1925.
- Copeman, S. A. M. A report on infestation of the human subject by the nematode worm, Ascaris lumbricoides. London, 1925. (Gt. Brit. Ministry of health. Reports on public health and medical subjects, no. 31.)
- Herrick, G. W. Manual of injurious insects. New York, Holt, 1925.
- Rivas Moreno, F. La plaza de langosta. Zaragoza. Tipografía Gambón, 1924.
- Withycombe, C. L. A contribution towards a monograph of the Indian Ctenopterygidae (Neuroptera). Calcutta, 1925. (India. Dept. of agriculture. Memoirs. Entomolog-ical series, v. 8, no. 1.)

BOTANY

- Cannon, W. A. Physiological features of roots. Washington, 1925. (Carnegie in-stitution of Washington. Publication no. 368.)
- Czapek, Friedrich. Biochemie der pflanzen. 3. auf. Jena, G. Fischer, 1922-25.
- Kanzler, Ludwig. Beiträge zur physiologie der keimung und der keimlinge. Dresden, C. Heinrich, 1925. (Diss.—Weihenstephan.)
- Lillo, Miguel. Estudio preliminar de una colección de plantas precedentes de Tartar-gal. Buenos Aires, Universidad nacional de Tucumán, Museo de ciencias naturales, 1925.
- Sperlich, Adolf. Die vegetations organe der anphyten. Berlin, Borntraeger, 1925. (Handbuch der pflanzenökonomie. Hrsg. von K. Linsbauer. II. abt.: Spezieller teil, 2. teil, bd. 9/2.)

ECONOMICS AND STATISTICS

- American farm bureau federation. Trend of judicial decision in cooperative marketing and compilation of authorities in coopera-tive marketing law, by Frank Evans. Chi-cago, 1925.
- Brish Guiana. Census commissioner's office. Report on the results of the census of the population, 1921. Georgetown, 1922.
- Gold Coast (Colony). Census report 1921 for the Gold Coast Colony, Ashanti, the Northern territories, and the mandated area of Togoland. Accra, Government press, 1923.
- Lebel, A. R. L'impôt agricole au Maroc, "Le Tertib." Paris, L. Larose, 1925.
- Northern states' cooperative league. Year book, 1st. 1925. Fergus Falls, Minn., 1925.
- Palestine. Superintendent of the census. Re-port and general abstracts of the census of 1922. Jerusalem, 1923.

STYLE BOOK

- Chicago. University. Press. A manual of style. Chicago, 1925.

PERIODICALS CURRENTLY RECEIVED

- L'abeille bourgeoise [quarterly] Année 41, t. 9, no. 8—Jan./Mar. 1925—Joigny
- Rural industries [quarterly] no. 1—Nov., 1925—London, 1925.
- Spotted Poland China digest [monthly] v. 1, no. 1—Dec., 1924—Kansas City, Mo.
- The Welsh bee-keeper; a monthly bee journal. v. 2, no. 12—Dec., 1924—Ammanford.

CIVIL SERVICE ANNOUNCEMENTS

Assistant chief warehouse examiner, \$3,800. (Tobacco standardization). Vacancies in the Bureau of Agricultural Economics, Washing-ton, D. C., on in the field will be filled from this examination. After the probational pe-riod of six months required by the civil-service act and rules advancement in pay may be made without change in assignment up to \$5,000 a year. Applicants should at once apply for Form 2118, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 26, 1926.

Tea examiner, \$2,400. Vacancies in the Bu-reau of Chemistry, for duty in the field, and in positions requiring similar qualifications will be filled from this examination. After the probational period of six months required by the civil-service act and rules advance-ment in pay may be made without change in assignment up to \$3,000 a year. Applicants should at once apply for Form 2415, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C. Receipt of applications will close January 30, 1926.

Library aid, \$900. A vacancy in the Bureau of Chemistry, Washington, D. C., and vacan-cies in positions requiring similar qualifica-tions will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$1,260 a year. Applicants should at once apply for Form 2415, stating the title of the examination de-

sired, to the Civil Service Commission, Wash-ington, D. C. Receipt of applications will close January 30, 1925.

Junior messenger, \$600; assistant messenger, \$900. (Open to both boys and girls.) Vacan-cies in the Departmental Service, Washington, D. C., and in positions requiring similar qual-ifications will be filled from this examination. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment up to \$780 for junior messenger and up to \$1,140 a year for assist-ant messenger. Applicants should at once apply for Form 2415, stating title of the ex-amination desired, to the Civil Service Com-mission, Washington, D. C. Receipt of ap-plications will close January 30, 1926.

COMMITTEES OF WESTERN CONFERENCE

To meet conditions caused by changes in personnel within the State extension services, the regional standing commit-tees of the western regional extension conference were reorganized at the re-cent meeting in Pullman, Wash., and have now the following membership:

Range livestock: C. F. Monroe, New Mexico, chairman; Cecil Creel, Nevada; E. F. Rhinehart, Idaho; C. U. Pickrell, Arizona; and B. W. Fairbanks, Colorado.

Dairying: P. V. Maris, Oregon, chair-man; Roud McCann, Colorado; V. E. Scott, Nevada; G. E. Gordon, California; and D. L. Fourt, Idaho.

Nutrition: B. H. Crocherson, Cali-fornia, chairman; E. J. Iddings, Idaho; Mrs. Rena B. Maycock, Utah; Luella P. Sherman, Wyoming; and Stella Mather, Arizona.

Farm crops: P. H. Ross, Arizona, chairman; J. C. Taylor, Montana; L. Hegnauer, Washington; G. R. Quesen-berry, New Mexico; and J. C. Hogenston, Utah.

Home management: A. E. Bowman, Wyoming, chairman; S. B. Nelson, Wash-ington; May Secrest, California; E. Miriam Hawkins, Montana; and Mrs. Jessie D. McComb, Oregon.

CINCINNATI U. S. D. A. CLUB

J. G. Scott, in charge of fruits and vegetables news service at Cincinnati, addressed the Cincinnati U. S. D. A. Club at its December meeting on his work in connection with the broadcast-ing of market reports.

H. C. Henriksen, president of the Porto Rico Federal Business Associa-tion, is connected with the Porto Rico Agricultural Experiment instead of the Insular Experiment Station, as was stated in THE OFFICIAL RECORD for No-vember 18.

The following was omitted from the directory of bureau chiefs, published in THE OFFICIAL RECORD last week: Bureau of Dairying, Dr. C. W. Larson, chief, east wing.

UNITED STATES DEPARTMENT OF AGRICULTURE

INDEX TO VOLUME 4

THE OFFICIAL RECORD

JANUARY 7, 1925—DECEMBER 31, 1925

	No.	Page		No.	Page		No.	Page
Abortion, infectious, danger to man..	45	5	Airplane use—			Arsenicals—		
Absence, leave, rules change.....	46	4	for weather data.....	25	5	poison to foliage.....	48	5
Accidents—			in crop observations.....	21	2	use against beetles.....	52	6
location on grades.....	23	4	in dusting boll weevil.....	31	1	Automobiles, accidents—		
road, study of causes.....	21	6	in dusting plant diseases.....	51	6	causes.....	20	5
Administration, business, of depart- ment, reorganization.....	16	4	in dusting trees.....	23	7	location on roads.....	23	4
Administration, regulations—amend- ments.....	15	4	surveys.....	34	3	road types.....	16	5
Aeronautics, safety code.....	7	4	Alaska—			Avian tuberculosis, papers.....	42	2
Aeroplanes. See Airplanes.	22	4	deer, starvation.....	8	2	Avocados, introduction from Ecuador	18	1
Agents, county—	41	3	fur shipments, value.....	9	3			
aid in soil surveys.....	17	8	Game—			Babaco, introduction.....	18	8
court decisions.....	39	5	Act.....	5	3	Baby beef contest, requirements.....	23	5
help with motors.....	46	6	animals, stocking plan.....	29	4	Baby, care of, remarks.....	47	2
scope of activities.....	28	5	Commission, authority.....	12	2	Bacteria, treatise rare, in library.....	24	2
summer course.....	32	6	preservation, law.....	19	5	BALL, E. D., resignation, etc.....	10	4
use of gas engines.....	46	6	regulations, new.....	33	5	28	4	
value in Indian Service.....	8	5	reindeer industry.....	15	6	Balloon stations, location, etc.....	10	2
Agricultural Conference—			wild life collections.....	52	4	Bankers—		
of 1924.....	2	1-2, 8	Alfalfa—			aid to farmers.....	51	3
report.....	5	1	campaign in Georgia.....	28	7	study of farming.....	32	6
Agricultural—			hay, grades, study.....	24	2	Barberry, killing with salt.....	22	3
corporations, taxes.....	6	3	seed chalcis, study.....	43	7	Bark beetles, damage to pine.....	51	2
Economics, chief, appointment... See also Economics.	35	1-2	ALLEN, R. A., turkey growing.....	50	6	Barley, Poland production.....	34	3
income, increase.....	30	3	Almond, paste standards.....	38	3	Baskets—		
survey, New Orleans trade area..	34	2	Almonds, insects, control work.....	24	5	bushel, short measure.....	8	3
Agriculture—			Amaryllis Show, scope.....	10	2	fruit and vegetable.....	32	3
African report on.....	42	2	Animal Industry Bureau, livestock recommendations.....	50	5	Bean beetle, Mexican, distribution...	38	3
basic industry.....	5	2	Animals—			Beans—		
conferences.....	40	1-2	danger from foreign diseases.....	12	1-2	sale by Economics Bureau.....	44	6
Department—			treatment for lice, etc.....	11	3	standards.....	36	4
attitude in giving help, ad- dress by Secretary Jardine.....	48	2	Antelopes, number in North America.	37	3	Bees, feeding.....	37	3
economy.....	51	4	Ants, white, infestation of buildings..	20	3	Beetle—		
housing problem.....	17	1, 3	Apple, roots rudimentary.....	30	5	Japanese, control work.....	52	6
location of bureaus, etc.....	51	4	Apples—			Mexican bean, distribution.....	38	3
part in International Stock Show.....	50	1	crop for 1925.....	44	3	Beetles—		
reports of branches.....	52	7	market—			attraction by geraniol.....	45	5
work, radio talk.....	11	4	in Britain.....	22	7	bark damage to pine.....	51	2
legislation.....	9	1-2	in Europe.....	34	4	Beets—		
legislative outlook.....	51	1-2	Appointments—			curly-top infection, studies.....	34	3
outlook, statement of Secretary...	13	1-2	personnel, policy.....	14	5	Europe, acreage changes.....	23	3
production and prices.....	36	2	routine.....	22	4	European crop.....	36	3
radio, use.....	6	3	without compensation, ruling.....	12	4	yield of sugar.....	45	5
southern, policy committee.....	16	4	Argentina—			Beltsville farm—		
training, value.....	44	4	agriculture.....	3	3	additional acreage.....	51	5
use of war explosives.....	43	1-2	corn—			breeding projects.....	33	6
Airmen—			acreage.....	5	3	Berberi—		
aid from Weather Bureau.....	39	6	exports.....	17	3	cause.....	29	1
"flying weather," forecasts.....	10	2	cotton—			relation to diet.....	37	5
			acreage.....	14	3	Berry, Andes, introduction.....	18	1
			yield.....	20	3	Beverages, juices for, study.....	42	6
			fruit flies, survey.....	23	5	Bibliographical contributions.....	25	5
			wheat acreage.....	30	3	Bibliography, value.....	26	4
			Armour-Morris merger, dismissal...	38	1, 5	Bighorn Mountain sheep, imports...	19	3
						Biological collections, Alaskan...	52	4
						Bird, chachacala, description.....	36	2

	No.	Page		No.	Page		No.	Page
Birds—			Cane—			Clubs—Continued.		
enemies to Japanese beetle.....	4	5	insects injurious.....	36	6	boys and girls—continued.		
foreign, permits for entry.....	13	5	Porto Rico, situation.....	20	2	Indian.....	43	6
game, hunting seasons.....	36	3	sugar—			study of work.....	50	4
importation.....	49	3	irrigation studies.....	18	6	work.....	33	1-2
imports, number.....	41	6	loss from borer.....	21	2	4-H, conference, topics.....	42	6
injury by poison.....	9	3	yield of sugar.....	45	5	College, Oregon Agricultural, radio..	49	5
migration studies.....	9	6	Canned food, swelling, cause.....	38	5	Colleges, land-grant—		
of Paradise, range and restrictions	19	5	Canner, pressure, requirements.....	11	5	Association, officers, etc.....	48	7
reservations.....	43	4	Canning—			bibliographical report.....	24	5
value and protection.....	35	3	methods for nonacid vegetables..	27	4	convention program.....	44	1-2, 3
Blasting—			water-bath and pressure.....	25	5	training value.....	44	4
caps, warning against.....	43	1-2	Carbonate, copper. See Copper carbon-			Color laboratory, dyes.....	21	1-2
farm, suggestions.....	43	1-2	bonate.			Colors, setting in fabrics, practices..	21	5
Blister rust—			Caribou—			Community—		
white pine.....	50	3	crossing with reindeer.....	36	6	cotton, California plan.....	31	3
white pine, spread.....	41	1-2	numbers in Alaska.....	52	4	service, by mail.....	15	6
Bobwhite, duty reduction.....	45	3	Casey collection, gift to museum.....	22	4	Compass, type used by Forest Service	33	5
Boll weevil—			Cassina, nature and use.....	39	1, 3	Compensation—		
control work.....	34	5	Cat-tails, destruction methods.....	39	4	commission, statement for em-		
dusting—			Cattle—			ployees.....	48	4
by airplane.....	31	1	best herds, awards.....	48	6	employees', instructions.....	49	4
devices.....	11	5	dairy—			Connecticut, tobacco industry,		
eradication program.....	13	3	breeding campaign.....	48	7	studies.....	29	3
odors attracting.....	10	3	improvement.....	6	6	Containers, standards, use.....	24	5
situation, report.....	22	3	danger to man by abortion infection	45	5	Convicts, production of textiles.....	19	4
Bollworm, pink—			grazing costs.....	1	5	COOLIDGE, PRESIDENT—		
host plants.....	46	5	testing for tuberculosis.....	22	2	address on economy.....	26	1, 7
precautions.....	4	5	tick, Texas quarantine.....	16	3	economy speech.....	6	1-2
quarantine.....	49	3	tongues, color.....	13	5	greetings to clubs.....	52	14
Books, list for farmers.....	30	4	tuberculin test, reliability.....	31	1-2	proclamation for fire protection		
Borer—			tuberculosis.....	9	5	week.....	39	2
cane, control methods.....	36	6	Cattlemen, drought areas, aid.....	10	6	Cooperation—		
European corn, extermination.....	49	3	Celery, crates, standardization.....	21	3	cotton marketing.....	10	3
Boys, club work.....	33	1-2	Census—			road building in Utah.....	25	1, 6
Brazil—			agricultural, of 1925.....	26	5	Cooperative marketing. See Marketing		
botanical explorations.....	32	1, 5	Bureau, cotton statistics.....	1	1	Cooperatives, need of informed leaders	30	1, 7
cotton industry.....	27	6	world agricultural, director.....	8	2	Copper—		
Breads, flours for, kinds.....	52	5	Chachalacas, description, etc.....	36	2	carbonate—		
Breeding—			Cheese, Roquefort—			fungicide use.....	45	6
aid from dairy records.....	50	6	flavors.....	23	4	use against wheat bunt.....	41	6
Beltsville Farm, projects.....	33	6	nature of mild.....	10	5	use on seed wheat.....	45	6
Broomcorn, inspectors' school.....	40	4	Chemistry—			lime dust, use on cranberries.....	51	6
Bud selection, citrus culture.....	11	5	agricultural, exhibit.....	39	1, 3	Corn—		
Budget—			Bureau—			advantages as a crop.....	27	2
economies affected.....	27	1, 3	dust explosion machine.....	49	3	Argentina—		
hearings conclusion.....	43	4	study of tea keeping.....	48	2	acreage.....	5	3
law, Ohio.....	30	3	work on naval stores.....	19	6	exports.....	17	3
Buffalo—			Cherry, capulin, introduction.....	34	2	borer, extermination.....	49	3
preservation progress.....	20	6	Chestnut—			contest, 100-bushel.....	37	7
purchase.....	30	4	blight, effect on timber.....	41	5	cost and sale price.....	26	3
Building, weather forecasts in.....	33	8	tannin in stumps, etc.....	52	3	earworms, injury.....	29	5
Buildings—			Chickens—			husk development, advantage.....	29	5
infestation with ants.....	20	3	production in 1923, 1924.....	10	3	increase of crop.....	47	2
safety against termites.....	30	3	tuberculosis, control.....	52	2	loans on warehouse certificates.....	48	3
termite-proof.....	30	3	Child, development study.....	44	4	Minnesota 13 seed, yield.....	37	7
Bulb flies, control by quarantine.....	52	1-2	Children, health improvement.....	17	6	seed breeding.....	52	6
Bulbs—			China—			South Africa, crops.....	32	3
foreign restrictions.....	19	1-2	agriculture, notes.....	27	3	yields in Philippines.....	38	3
quarantine.....	52	1-2	farm life.....	49	4	Cotton—		
Bulletins, reviews.....	(1)	(1)	Chlorine, cause of defoliation of			Argentina—		
Bulls—			peach trees.....	33	5	acreage.....	14	3
finding by records.....	50	6	Chrysanthemum, show—			yield.....	20	3
scrub, eradication.....	5	7	in 1925.....	43	4	bagging and ties.....	21	3
Bunt, wheat treatment for.....	45	6	names.....	47	6	boll-weevil zone, pictures.....	24	1
Butter—			Chrysanthemums, production, sug-			Brazil industry.....	27	6
brands numerous.....	45	3	gestions.....	50	2	British activities.....	5	2
making for Navy.....	15	6	Citrus—			cooperative marketing.....	10	3
short-weight, penalty.....	20	3	bud selection practices.....	11	5	cost and sale price.....	26	3
sweet cream, defidition.....	49	3	varieties, pedigrees.....	25	3	crop, airplane observations.....	21	2
Butterfat, record production.....	36	5	Clothes, protection from moth.....	1	5	extension growing.....	48	6
Buttermakers, address by C. W.			Clothing, mothproofing.....	8	5	foreign production increase.....	49	1
Lawson.....	37	1-2	Clover seed, use of home-grown.....	7	3	futures act, amendment.....	1	1
California—			Club work, incentive to education..	33	8	growing—		
animal diseases, suppression.....	46	6	Clubs—			improvement.....	32	3
cotton, one-variety movement.....	31	3	boys and girls—			in Texas Panhandle.....	29	3
Canada, cooperation in insect control.	33	5	Congress.....	51	8	handling conference.....	9	5
Canal zone, hemp-growing experi-			dairy success.....	48	6	improvement work.....	32	3
ment.....	49	1-2	foreign countries.....	8	3	India acreage.....	35	3

¹ Each issue.

	No.	Page		No.	Page		No.	Page
Cotton—Continued.			Disability, benefits for employees	48	4	Employees—Continued.		
infestation by pink bollworm	29	3	Diseases—			field, ruling on maintenance,	0	1-2
liners, tentative grades	10	3	animal, danger	10	3	quarters, etc.	3	2
one-variety, planting, protection			deficiency in diet	37	5	office hours	6	5
by law	31	3	foreign animal, menace	12	1-2	patents granted	41	5
Pima—			Disinfectants—				18	4
demand	15	2	damage to dressed poultry	8	3	retirement	22	5
ginning problem	12	5	livestock, importance of quality	32	3		30	4
production, prices, etc.	15	6	Diversified farming, problem	26	6		48	4
smooth-seed	23	2	DOGNIN, PAUL, moths, etc.	30	4	Engineering, road, aid of soil maps	30	6
plant, odors, studies	23	2	Drainage, relation to precipitation	19	5	Engines, gas, care and repair	46	6
problems, discussion	16	2, 2	Dry goods, fiber mixtures	47	6	Entomology, Casey beetle collection	22	4
regulations, amendment	24	3	Duck—			Erosion, hillside, loss of soil	42	5
relation to pink bollworm	46	5	parasite of, sarcocyst	51	5	ESTABROOK, L. M., foreign appoint-		
rules abroad, call for uniformity	42	1, 8	wood, protective laws	46	3	ment	8	2
Russia, acreage increase	22	3	Duff, indicator of fire danger	45	6	Exhibit, dairy, form and purpose	38	1-2
Sea Island, Porto Rico crop	20	2	DUNLAP, Assistant Secretary, ad-	19	2	Exhibits—		
smooth-seed strain	23	2	dresses	40	1-2	attendance of farmers	50	8
standards—			DUNLAP, RENICK W., Assistant			Department—		
acceptance	28	4	Secretary, sketch	12	1, 5	benefit to nut growers	34	4
acceptance at Liverpool	22	1, 7	Dust explosions—			praise for	43	4
forms	38	3	hazards	33	1	livestock portable	22	2
international use	13	5	machine for	49	3	Experiment stations—		
sale, etc.	6	3, 4	prevention, exhibit	39	3	Alaska, report	5	7
universal approval	11	1, 8	Dusting—			endowment	10	1
use and value	24	5	airplane, on plants	51	6	extension	46	1, 8
statistics in ginning reports	1	1	boll weevil—			Federal aid	29	5
strains, maintenance of purity at			devices	11	5	Explosions, dust, film	40	5
gin	38	5	use of airplanes	31	1	Exposition, chemical, Department		
studies in New Mexico station	28	3	peach trees, results	34	1	exhibit	39	1, 3
world—			Dye, color setting methods	21	5	Extension—		
consumption	38	3	Dyes, fadeless, patents	21	1-2	agents, conference	9	6
Cottonseed, oil content	41	3	Economics—			annual conference	50	2
County agents. See Agents.			agricultural, aid by Purnell Act.	47	1, 3	approval by farmers	1	5
Coville Lake, discovery, etc.	32	5	Agricultural, Bureau—			court decision for	46	5
Cows—			Chief	35	1-2	dairy cows, breeding	48	7
dairy, feed preparations for	32	4	marketing study	48	4	directors, appointment	25	6
milk yields, average by countries.	34	5	Women's council	8	4	field studies	18	8
records—			agricultural, sale of beans	44	6	News, Michigan, notice	50	7
of production	36	5	Economics, department, report	14	1	program, plan	32	2
tabulation	50	6	Economy—			programs, aid in marketing	13	1, 6
testing associations	23	3	addresses of President	6	1-2	records, loans, plan	15	6
Coyotes, rabies spread	5	5		26	1, 7	Service, evolution	5	6
Cranberries, dusting from air	51	6	Federal, example	50	4	studies of results	36	7
Crates, celery, standardization	21	3	Ecuador, agricultural exploration	18	1, 8	work—		
CRAWFORD, NELSON A., appoint-			Editors, agricultural college—			cooperation of banks	15	5
ment	14	1-2	meeting	24	4	cooperative, 1923	21	7
Creamery, Grove City, management	15	5	meeting, election, etc.	28	1-2	historical notes	33	6
Crop reporting, Porto Rico plan	31	2	Education—			food preservation	14	6
Crops—			agricultural, radio as aid	27	6	poultry sanitation	11	6
cost and sale prices	26	3	college short course, picture	34	6	progress	(0)	(0)
forecasts, aid to farmers	14	6	course by Cooperation Institute	18	2	remarks of Secretary	47	3
leading five	10	5	courses in wood utilization	30	4	review	48	7
value, 1923, 1924	13	3	Department courses	39	4	Extracts, use of term	20	5
Dairy—			farming course for bankers	40	1, 5	Fabrics, selection, lantern slides	32	8
belt, land values	11	3	summer course for county agents	32	6	Fading, differences in colors	52	5
Bureau—			value of club work	33	8	Farm—		
creation	1	2	Eelworms, menace to alfalfa and			analysis, slide series	33	8
records of cows, use	50	6	clover	52	2	Beltsville. See Beltsville farm.		
exposition, department exhibit	38	1-2	Efficiency, ratings—			families—		
herds—			boards, personnel	20	4	attendance on exhibits	50	8
improvement	6	6	of employees, change	46	6	living conditions	25	3
Utah, improvement	8	6	register	21	4-5	home work, comparison with city	33	6
officials, meeting	28	4	Egg grades, adoption in Hawaii	45	7	products—		
products, record production	27	6	Eggs—			adjusted production, address	28	1, 7
stock, breeding campaign	48	7	frozen, vitamin value	14	3	markets abroad	52	4
Dairying, effect of poor pastures	25	3	packing study	43	3	purchasing power, 1920, 1924	19	5
Dashen, nature and use	18	5	Egrets, range and restrictions	19	5	records, request for prices	19	2
Deer—			Elevators, grain, management course	29	2	surplus, remarks of Secretary	49	6
Alaska, winter losses	8	2	Elk, feeding in Yellowstone Park	45	7	surpluses, study by Secretary	52	1
preservation progress	20	6	Employees—			Farmers—		
release in Kodlak region	30	2	compensation—			aid from crop forecasts	14	6
Defense test day	26	4	for injuries	48	4	bank help	51	3
Demonstration work, home, initiation	15	5	instructions	49	4	books for, list	30	4
Diet—			efficiency ratings	21	4-5	clothing expenditures	1	5
deficiency, disease from	37	5	Extension, compensation for in-	46	6	extension approval	1	5
relation to liver action	36	5	juries	33	5	income, situation	31	3
Directory—						Iowa, use of radio	29	1-2
Animal Industry Bureau	19	5				living on farm, data	41	3
teachers in rural life	48	5				movement to cities	9	3

	No.	Page		No.	Page		No.	Page
Farmers—Continued.			Food—Continued.			Fruit—Continued.		
position of industry, report by Secretary.....	49	1, 6	officials, meeting.....	28	4	saving, aid of Weather Bureau.....	13	4
production and market needs.....	27	1-2	preservation, extension work.....	14	6	spray, weather forecasts.....	22	6
profits.....	26	3	sick room, publications.....	48	5	stock, inspection studies.....	37	1, 7
supplies from farm.....	8	5	standards, definition.....	11	3	success in Kansas, note.....	51	3
supply with lime.....	42	6	value, points in.....	3	5	wrapping paper.....	50	3
Farming—			vitamin content, study.....	24	6	Fruits—		
business efficiency.....	27	1-2, 7	weights, use of new steelyard.....	12	5	Introduction by Wilson Popenoe.....	34	1-2
experiments, extension.....	46	1, 8	Foods—			market wire.....	46	8
future, talk by Secretary.....	46	1-2	brands confusing.....	45	3	Porto Rican—		
one-crop system, danger.....	27	2	protective, remarks.....	50	5	inspection.....	15	3
record keeping, move in Oregon.....	52	5	vitamins in.....	29	1, 8	quarantine.....	5	3
<i>See also</i> Agriculture.			Foot-and-mouth disease—			standards.....	24	3
Farms—			campaign in Texas.....	47	3	stocks for, restrictions.....	16	3
decrease in number.....	33	3	control in Texas.....	44	3	Fumigant, grain, new product.....	39	1
equipment, study.....	45	2	eradication.....	1	1, 8	Fungicide, copper carbonate.....	45	6
life in China.....	49	4	outbreaks in Texas.....	33	2	Fur—		
management service, use.....	20	6	study—	40	2	animals, legislation suggestions.....	12	2
Montana, organization.....	10	3	in Europe.....	45	1, 3	data, publication.....	36	5
naming campaign.....	38	6	plan.....	13	2	farmers, lists announcement.....	31	8
purchasing power.....	49	3	suppression.....	46	6	farming—		
Feed, dairy cows, grinding.....	32	4	Swiss.....	45	3	extent.....	31	8
Fertilizer Federation, Secretary.....	25	1-2	Forecasts weather—			statistics, work.....	7	3
Fertilizers—			economic value.....	1	6	industry.....	10	5
chemical, exhibit.....	39	3	"flying weather".....	10	2	resources, study.....	21	5
mixing at home.....	38	6	plans for polar flight.....	18	2	Furfural, nature and uses.....	39	1
Fever, Malta, relation to bovine abortion.....	45	5	special.....	22	6	Furs—		
Fibers, mixtures in dry goods.....	47	6	Forest—			Alaskan, shipments.....	9	3
Field work, inspection by Secretary Jardine.....	19	1, 7	experiment stations, location.....	11	5	seized, disposal of.....	9	5
Films—			fires, weather prediction.....	45	6	Game—		
Department, at stock show.....	50	1	Protection Week, proclamation.....	11	1-2	Alaska—		
enlargement success.....	38	8	Santa, Barbara, destruction of office.....	29	2	jurisdiction of department.....	19	5
fire, usefulness.....	43	3	Service—			money for new stock of.....	29	4
releases.....	20	5	glue investigations.....	21	5	new regulations.....	33	5
Fire—			type of compass used.....	33	5	<i>See also</i> Commission.		
brigades, organization plan.....	1	4	uniform.....	35	5	big—		
fighting, Melvin Morris.....	41	4	White Mountain, addition.....	13	3	Alaskan refuge.....	52	4
Fireplaces, good, importance.....	1	5	Foresters, Society, prize offer.....	28	4	estimates.....	24	3
Fires, forest—			Forestry, World Congress, plan.....	18	3	preservation progress.....	20	6
number and damage.....	31	3	Forests—			Bighorn sheep, imports.....	19	3
weather prediction.....	45	6	cattle grazing, costs.....	1	5	birds, hunting season.....	36	3
	6	4	dead, on National Parks.....	49	5	Commission—		
	7	4	Eastern, lands for.....	9	3	Alaska, personnel.....	12	2
	9	4	fire crews, emergency organization.....	32	6	Alaskan.....	5	3
Fiscal regulations, amendments.....	14	4-5	fires, number and damage.....	31	3	laws, violations on border.....	29	4
	20	4	relation of banks.....	33	3	refuge—		
	21	4	Florida, trees described.....	46	3	islands in Mississippi River.....	37	2
Fish—			grazing—			Mississippi, land purchase.....	49	3
oil, use in sprays.....	37	6	fees, fixing.....	34	2	purchase.....	36	1, 8
use with milk.....	26	5	leases, remarks of Secretary.....	49	6	refuges, creation.....	19	5
Flavor, use of term.....	20	5	growth and consumption.....	28	5	sanctuary, Beverly, Mass.....	30	4
Flavors, soft drinks.....	40	6	insect studies, plan.....	18	3	wardens, attacks by hunters.....	26	2
Flaxseed, oil—			money for schools and roads.....	51	5	wild life collections, Alaska.....	52	3
content test.....	39	3	national—			Garden convention, address by Assistant Secretary.....	19	2
test.....	41	3	creation.....	16	5	Gardening, extension work with Indians.....	18	6
Flea, sticktight, outbreak.....	28	3	resources.....	46	3	Gas engines—		
Fleas, habits and hosts.....	32	4	ten per cent fund.....	47	5	care and repair.....	46	6
Flies—			timber receipts.....	41	3	care, Nebraska.....	46	6
bulb, control by quarantine.....	52	1-2	new national, establishment.....	32	6	Gasoline—		
fruit, Argentina survey.....	23	5	revenue from.....	28	7	tax for 1925.....	40	3
Flood service, Weather Bureau, praise.....	48	5	roads, construction.....	2	4	taxes paid by motorists.....	12	3
Florida—			South, research work.....	17	2	Georgia, peach crop, record.....	34	1
bird reservation.....	43	4	taxation study.....	45	1-2	Geraniol, use to attract Japanese beetles.....	45	5
citrus fruits reports.....	38	3	Fowl pest, source.....	10	1-2	Germany, dairy sires, demand for.....	22	3
forest trees.....	46	3	Fowls, tuberculosis extent, map.....	52	2	Gins, roller, uniform operation.....	12	6
markets wire.....	46	8	France, market for American meats.....	8	3	Gipsy moth—		
rubber production.....	38	2	Freezing, effect on canned food.....	12	5	control studies.....	40	4
soil-survey appropriation.....	30	4	Freight rates, adjustment.....	49	1	parasite study.....	43	3
Flour, peanut, uses.....	3	5	Frost—			parasites, search.....	12	5
Flours, preferences in bread making.....	52	5	control.....	51	5	report for 1925.....	44	7
Foliage, poison from insecticides.....	48	5	protection from.....	47	5	Girls, club work.....	33	1-2
Food—			Fruit—			"Glittering Glory," mount by Secretary.....	18	5
and Drugs Act, violations.....	8	5	growers, aid in frost protection.....	47	5	Gooseberries, clearing for rust control.....	41	2
canned—			infection with pear blight.....	31	5	Gopher, damage in irrigation.....	24	2
cause of swelling.....	38	5	juices—			Gore, Secretary, resignation.....	10	4
freezing effect.....	12	5	labeling.....	29	3			
keeping.....	2	5	of, preservation.....	42	6			
convention, Colorado.....	40	1-2	mangosteen, description and introduction.....	33	2			
			products, standards hearing.....	27	6			

	No.	Page		No.	Page		No.	Page
Grading, wool, demonstrations.....	36	6	Home—Continued.			KELLEY, E. F., roads appointee.....	47	4
Grain—			Economics—			Kentucky, purebred sires, number.....	17	3
elevator, management course.....	29	2	aid to individuals.....	12	4	Kernel pastes, standards.....	38	3
futures—			Bureau, aid in homes.....	16	6	KEER, A. P., foliage poisoning.....	48	5
administration, chief.....	34	1	Bureau, appointments.....	41	4	KEER, ALEXANDER H., death notice.....	7	4
price fluctuations.....	20	1-2	studies in Belgium.....	28	5	KIERNAN, J. A., address on tubercu-		
market news service, remarks.....	42	2	study by foreign women.....	21	5	losis eradication.....	42	1-2
prices, study plan.....	13	3	study of feeding children.....	44	6	KITCHIN, C. W., appointment.....	24	4
South America, shortage.....	8	3	study of textiles.....	47	6	Kiwanis, help to boys' pig club.....	44	6
standards, specifications for Ru-			projects, exhibits.....	16	6			
mania.....	25	7	Homes—			Labeling, fruit juices.....	29	3
Grains, grades, establishment.....	24	5	country, extension work.....	13	4	Labor, farm, conditions.....	26	3
Gramalote, introduction.....	18	8	demonstration work.....	15	5	Laborers, farm decrease.....	30	3
Grapefruit—			{			Lambs, early crop.....	16	3
Porto Rico crop.....	20	2	{			Land, values in dairy belt.....	11	3
seedless.....	6	5	{			Lands, survey from airplanes.....	34	3
Grapes, grades for, conferences.....	40	4	{			Language, trade, standardization.....	24	5
Grasshoppers—			{			Lantern slides, road construction.....	52	4
nemic parasites.....	35	5	{			Lava beds, national monument.....	49	3
outbreaks.....	37	3	{			Law—		
Grazing—			{			game, note on.....	44	5
cattle, costs.....	1	5	{			seeds, protection of.....	44	5
leases, remarks of Secretary.....	49	6	{			Lawns, worm control, film.....	6	8
replacement by cotton growing.....	29	3	{			Laws—		
GREELEY, W. B., remarks on forest			{			administration by Department ..	23	6
taxation.....	45	2	{			applicable to Department.....	4	7
			{			wild-life conservation.....	19	5
HALL, M. C., chief zoological work.....	41	4	{			Leafhopper, sugar-beet, spread of		
Hardwoods, growth on pine land.....	37	5	{			curly-top.....	34	3
Harvest, weather forecast.....	6	5	{			Leave of absence—		
Hawaii, interest in egg grades.....	45	7	{			rules change.....	46	4
Hay—			{			without pay, rules, new.....	46	4
alfalfa and wild.....	9	7	{			Legislation—		
Federal inspection, value.....	40	3	{			{	1	1
inspectors, training school.....	24	2	{			{	5	1-2
standards.....	31	4	{			{	6	1
Health—			{			{	8	1-2
children, improvement work.....	17	6	{			{	9	1-2
Day, Child's.....	16	4	{			{	10	1
Heating system, one-register.....	1	6	{			{	12	2
Hemp—			{			{	19	3
growing trial in Canal Zone.....	49	1-2	{			{	46	4
industry improvement.....	41	3	{			{	51	1-2
Philippine production.....	49	1-2	{			{	52	3
varieties, collection.....	49	2	{			{		
Herbarium, Department, magnitude			{			{	19	3
and value.....	32	1	{			{	51	1-2
Herds, accredited, increase.....	7	3	{			{	52	3
Hessian fly—			{			{	12	2
report.....	43	6	{			Library—		
surveys.....	36	3	{			accessions.....	(1)	(1)
Hevea, planting experiments.....	39	1-2	{			books lost from.....	39	8
Highway—			{			rare pamphlet.....	24	3
Board—			{			Lightning—		
meeting.....	21	3	{			ball, types.....	2	5
proposals.....	17	1-2	{			prints, explanation.....	14	5
recommendation of road signs.	32	1-2	{			rods, facts about.....	49	2
system, United States, approval	49	2	{			Lime—		
Highways—			{			supply to farmer.....	42	6
accidents, study.....	21	6	{			use in Missouri, campaign.....	39	5
conference at Atlanta.....	22	3	{			Lincoln University, Wallace scholar-		
engineering, aid of soil maps.....	30	6	{			ship.....	13	4
Federal-aid, completion.....	30	7	{			Linters, tentative grades.....	10	3
marking—			{			Livestock—		
board meeting.....	29	6	{			agencies, growth.....	10	3
plan.....	9	1-2	{			annual review.....	1	1-2
routes, overlapping of names.....	15	4	{			breeding campaign.....	48	7
signs, recommendations by Board.	32	1-2	{			exhibits to loan.....	22	2
United States, designation.....	20	3	{			films, popularity.....	30	5
Hillsides, erosion and loss of soil.....	42	5	{			foot-and-mouth disease.....	44	3
Hogs—			{			{	1	2
cholera, serum licenses.....	48	5	{			{	9	3
prices, etc.....	1	2	{			{	10	3
sanitation—			{			{	47	2
McLean system.....	39	5	{			{	15	3
system in Ohio.....	39	5	{			{	1	1
Home—			{			{	50	5
demonstration—			{			{		
agent, records.....	24	3	{			{	15	1,3
progress.....	42	3	{			{	15	1,3
			{			{	6	4
			{			{	51	1,5

1 Each issue.

THE OFFICIAL RECORD

	No.	Page		No.	Page		No.	Page
Livestock—Continued.			Meat—Continued.			Oats—		
sanitation, new ruling.....	29	3	studies, cooperative.....	51	1-2	cost and sale price.....	26	3
standards, need.....	24	3	study by department.....	48	3	grades, Federal.....	23	3
value, 1923, 1924.....	13	3	tenderness, testing.....	51	1	Poland, production.....	34	3
living expenses, distribution.....	22	5	Meats—			OBERLY, EUNICE, memorial fund.....	1	2
loans, agricultural, study of rates.....	39	3	buying, habits of consumers.....	16	3	Ocean—		
Lord, General, talk on Government economies.....	27	1, 3	inspected, percentage.....	25	5	temperatures.....	26	5
Louisiana, farm products survey.....	23	3	market in France.....	8	3	weather—		
MACDONALD, T. H., ROADS DIRECTOR—			retail studies.....	32	4	charting work.....	37	3
meetings, attendance.....	35	1	skippers, control.....	41	5	work in Department.....	34	6
remarks on South America.....	47	8	supply to Europe.....	22	2	Ohio, budget law.....	30	3
trip to South America.....	47	1-2	Medical service, employees.....	45	4	Oil, fish, value in sprays.....	37	6
Machines, sewing, exhibit.....	10	4	Messengers, appointment, etc.....	14	4	Oils, differences.....	47	5
MADDEN, MICHAEL J., retirement.....	36	4	Mexico—			Oklahoma, pig club work.....	44	6
Mail—			agriculture leaders, visit.....	48	3	OLSEN, NILS A., research chief.....	18	1-2
addressing, better methods.....	21	4	“Better-sires” campaign.....	18	3	Onions, prices, fluctuation.....	35	3
Christmas, trucks for.....	45	4	cooperation in insect control.....	33	5	Oranges, damage by rats.....	11	8
insured, rule change.....	46	4	Military service, retirement status.....	17	4	Orchards, New England survey.....	28	5
	21	5	Milk—			Oregon—		
	23	4	boiled, skim.....	46	5	college radio program.....	49	5
	31	4	Chicago supply.....	33	7	farm records work.....	52	5
	35	4	clean, factors in production.....	6	5	pine disease.....	50	3
Mailing lists, notices of.....	38	7	condensed, etc., definitions.....	27	4	Trail, route.....	1	1
	46	4	consumption studies.....	16	3	Oysters, clean, plan for.....	11	2
	47	4	cooperation, address, by Secretary Jardine.....	48	1-2	Package manufacturers, outlook.....	32	3
	50	4	pasture survey.....	20	5	Packer merger case, dismissal.....	38	1, 5
Mammals, importation.....	49	3	Philadelphia survey.....	7	4	Packers administration, chief, etc.....	23	4
Mangosteen, description and introduction.....	33	2	record production.....	36	5		12	4
Market—			souring cause.....	43	5		20	1, 8
honey, reports.....	33	5	use—			Armour-Morris case.....	14	3
meat, in France.....	8	3	In manufactures.....	17	4	Packing, eggs, study.....	43	3
news, receiving by radio.....	29	1-2	with fish.....	26	5	Paper—		
reports—			Milksickness, cause.....	2	6	fruit wrapping.....	50	3
by radio, exhibit.....	42	5	Mississippi Wild Life Refuge.....	19	5	injury by heat.....	26	3
radio, note.....	44	5	Mohair, production increase.....	12	3	wrapping, reuse.....	41	3
Marketing—			MOHLER, JOHN R., on meat inspection.....	27	5	Parasite, sarcocyst of ducks.....	51	5
aid of extension.....	13	1, 6	Moth—			Parasites—		
board, recommendation.....	5	1	gipsy, parasite study.....	43	3	external, treatment.....	11	3
cooperation—			sat in, quarantine.....	36	3	gipsy moth, liberation.....	32	4
conference.....	45	1	Mothproofing, solutions, efficacy.....	8	5	Japanese beetle, success with.....	52	6
progress.....	27	2, 7	Moths, clothes, precautions.....	1	5	moth, study of.....	43	3
value.....	28	7	Motor—			Parks, national, forests dead.....	49	5
cotton—			outboard, lawful use.....	44	5	Passports, fees remission.....	27	4
conference.....	7	3	vehicles—			Pastes, almond and kernel, standards.....	38	3
cooperation, film.....	10	3	increase in 1924.....	11	5	Pasteurization, milk.....	20	5
export corporation.....	52	3	registrations.....	40	3	Paving, study of brick for.....	50	7
farm products, survey.....	23	3	Motorists, gas-tax burden, 1924.....	12	3	Peach—		
film for cotton.....	50	7	Mules, decrease in number.....	18	3	orchards, dusting results.....	34	1
organizations.....	4	1	Museum—			trees—		
standards and language.....	24	5	Casey Collection.....	22	4	defoliation, cause.....	33	5
study.....	48	4	National, insect work.....	11	6	dusting.....	24	4
Markets—			Names, farm-home, campaign for.....	38	6	Peaches, dusting from air.....	23	7
cotton—			Narcissus—			Pear blight, infection of fruit.....	31	5
in South Carolina, study.....	39	2	imports, restriction.....	19	2	Pectin, citrus, production from waste.....	13	6
study.....	42	1, 8	quarantine.....	52	1-2	Penitentiary, Atlanta, textile production.....	19	4
foreign, for farm products.....	52	4	Naval—			Peppermint, crop forecast.....	33	3
fruit, European.....	34	4	Reserve, leave of employees.....	25	3	Personnel and business administration office, organization.....	16	4
grain, news service.....	42	2	stores—			Pheasants, procured from States.....	28	5
livestock, prices, etc.....	1	1-2	statistics.....	40	3	Philadelphia, milk survey.....	7	4
pushcart, report.....	22	3	work of Department.....	19	6	Philippines—		
radio reports, value.....	15	4	Navy, butter for, quality, etc.....	15	6	hemp production.....	49	1-2
	19	7	“Neat cattle,” use of term.....	17	4	rubber and corn lands.....	38	3
MARLATT, C. L., European trip.....	37	1, 7	Negroes—			weather service.....	9	5
Marmot, bad habits.....	24	2	colleges, conference.....	18	2	Phosphoric acid, production method.....	39	3
Meat—			demonstration course for.....	29	5	Phthalic anhydride, making.....	21	2
consumption—			NELSON, E. W., trip through West.....	42	5	Pictures, use of lantern slides.....	23	3
increase.....	6	3	Nemas, parasites of grasshoppers.....	35	5	Pima cotton, smooth-seed strain.....	23	2
per capita.....	23	8	New—			See also Cotton, Pima.		
report.....	15	3	England, dairy industry.....	35	3	Pine—		
food products, inspection.....	41	5	Hampshire, agricultural legislation.....	19	3	blister rust spread.....	41	1-2
Germany, production.....	1	7	tion.....			forests, fire danger indications.....	45	6
grade, for steamship lines.....	11	3	Mexico, extension work with Indians.....	18	6	loss by bark beetles.....	51	2
inspection—			Orleans, trade agricultural.....	34	2	western white, studies.....	3	6
1924.....	1	2	Zealand, dairying report.....	20	3	Pineapples, Porto Rico, importance.....	20	2
cost.....	50	5	North Carolina, breeding campaign.....	48	7	Pines—		
service.....	27	5	Nut industry, Department exhibits.....	34	4	damage from pine beetle.....	25	3
production tables.....	11	3	Nuts, pistachio, production, U. S.....	2	5	white, blister rust.....	50	3
						wood-lot management, club work.....	23	6

	No.	Page		No.	Page		No.	Page
Pink boll worm. <i>See</i> Bollworm, pink.			Quarantine—Continued.			Roads—Continued.		
Plant Industry Bureau, seed testing	48	5	Porto Rican fruits	5	3	lack in South America	47	2
Planting, intentions, report notice	12	3	Porto Rico products	24	3	markings, proposals	17	2
Plants—			potato wart, maintenance	46	3	mileage—		
disease control by airplanes	51	6	satin moth	36	3	built in 1924	37	3
quarantine, remarks by Secretary	49	6				surfaced	45	3
Plowing, hindrance by stumps	47	5	Rabbits, industry study	45	3	national—		
Poison—			Rabies, spread by coyotes	5	5	forests, mileage	3	5
foliage, by insecticides	48	5	Radio—			routes and marks	49	2
plants, demonstration	2	6	educational work	27	6	show at San Francisco	45	4
Poisoning, boll weevil, dusting devices	11	5	extension use	48	6	South America, remarks by T. H. MacDonald	50	3
Poland, barley and oats crop	34	3	information sale	5	3	types conducive to accidents	16	5
Polar expedition, forecasts	18	2	market reports—			use of, address of Secretary	23	1, 8
Population—			as exhibit	42	5	Rodents, control work	25	3
farm, decline	29	3	note	44	5	Rose, immunity to pear blight	31	5
proportion to crop production	1	3	value	19	7	Roses, stocks for, restrictions	16	3
Porto Rico—			Oregon Agricultural College	49	5	Rosin—		
agricultural condition	20	2	use by—			producers, conference	3	4
crop reporting	31	2	farmers	40	7	stock	40	3
crop reports, plan	20	2	Iowa farmers	29	1-2	Rubber—		
fruits—			use in agriculture	6	3	Para, growing in Philippines	38	3
inspection	15	3	weather maps	31	4	production in Florida	38	2
quarantine	5	3	Railroad tickets, loss caution	31	4	sources, etc.	39	1-2
quarantine	24	3	Railway—			studies in New Mexico	28	3
Post Office Department, gasoline storage	33	4	association, work with Department	40	4	Russia—		
Potatoes—			trains, crop-meter use	35	7	conditions	47	2
Andean, introduction	18	1, 8	Railways and trucks, address by Secretary	23	1, 8	cotton area, increase	22	3
grades, note	24	5	Rainbow, colors	5	5	crop acreages	14	3
wart embargo	46	3	Rainfall, measure per acre	36	5	grain shortage	8	3
yields increase	25	6	Ranges—			textile industry, note	36	4
Poultry—			cattle, change to sheep ranges	14	5	Rye—		
marketing	45	5	sheep, water on	21	6	Hungary, forecast	28	3
sanitation program	11	6	RANSOM, BRAYTON H., death notice	38	4		38	3
shipments, restrictions	6	3	Raspberry, Van Fleet, characteristics	8	6	world crop	37	3
taint by disinfectants	8	3	Rats—				1	3
Power, use on farm	26	3	attack on orange packing house	11	8		37	3
Predatory animals, control, note	42	8	control products, cost	8	4	Salt, use against barberry	22	3
Preserving, juices of fruit	42	6	Raw materials, control, note	52	3	"Sand fleas," nature	32	4
PRESIDENT. <i>See</i> COOLIDGE.			Rayon, composition and nature	15	5	Sanitation—		
Price index, farm products	1	3	Reforestation, aid of squirrels	6	8	livestock, new ruling	29	3
Prices, grain, study plan	13	3	Reindeer—			poultry raising	11	6
Promotions, regulations and selections	21	4	crossing with caribou	36	6	Sassafras oil, attraction for Japanese	52	6
Pronghorns, number in North America	37	3	meat, availability	15	6	beetle	52	6
Propagation, discussion	2	6	Research—			Sauerkraut, standard	36	3
Proteins, remarks	47	5	agricultural value	7	1, 6	Sausage—		
Publications—			aid by Purnell Act	47	1, 3	inspection	41	5
articles by employees	(1)	(1)	institutions, Russia	25	5	market, wholesomeness	38	5
department, reviews	(1)	(1)	work, Chief in B. A. I.	18	1-2	standards, note	52	5
experiment station, list	(1)	(1)	Retirement, employees	(2)	(2)	Scab, sheep, eradication work	28	6
Pure-bred sires, increase	1	2	Rice—			School—		
Purnell Act—			India, crop	11	3	annual, at Camp Vail	43	6
attention from land-grant colleges	48	1	insects injurious	36	6	Department—		
effect	47	1, 3	world crop increase	13	3	courses	40	1, 5
provisions	16	1-2	Ricketts, cause and prevalence	29	8	graduate	25	2
research stimulus	43	3	Rinderpest, protection from	4	1	graduate courses	7	5
work under	46	1, 8	Road—			movable, Tuskegee	12	8
Pusheart markets, reports	22	3	Congress, Pan American	35	1, 7	Schools, aid by forests money	51	5
Pyrotol, use urged	43	1-2	Salt Desert, motion picture	36	5	Science, farming, extension	46	1, 8
			tour, Pan American	9	3	Scurvy—		
			Wendover cut-off importance	25	1, 6	cause	29	8
			Roads—			relation to diet	37	5
			aid by forests money	51	5	SECRETARY—		
Quail—			Bureau			memoranda on leaves	46	4
bobwhite, duty reduction	45	3	accident studies	23	4	study of farm surpluses	52	1
study plans	14	2	study of paving brick	50	7	<i>See also</i> JARDINE.		
Quarantine—			construction, lantern slides	52	4	Seed—		
bulbs, discussion	47	5	Federal aid—			adulteration	34	5
foot-and-mouth disease	17	8	mileage	30	7	clover, home-grown	7	3
foreign bulbs	19	1-2	profit in	29	3	corn, growing	52	6
fruit and grape stocks	37	1, 7	Federal, remarks of Secretary	49	6	importation act—		
Japanese beetle	52	6	forest—			benefits	52	5
narcissus and other bulbs	52	1-2	fund for	47	5	effect	24	6
pink bollworm	49	3	mileage built in year	16	5	importation law, note	44	5
plant, remarks of Secretary	49	6	grading studies	44	6	Improvement Association, Ohio	39	5
			improved, self-support	29	3	wheat, protection from bunt	45	6

	No.	Page		No.	Page		No.	Page
Seeds—			Sticktight flea, outbreak.....	28	3	Transportation—		
imports, amounts.....	29	5	Stinkbug, rice, control measures.....	36	6	address of Secretary.....	23	1, 8
sample testing.....	48	5	Stock show, international, report.....	50	1	South America.....	47	1-2
tree, foreign demand.....	5	3	STOCKBERGER, W. W., director busi-			Travel—		
vitality tests.....	24	2	ness administration.....	15	1-2	expenses—		
wild-duck food plants.....	32	4	Stockman, profit from radio news.....	29	2	regulations.....	7	4
Seismological work, transfer.....	5	2	Stockyards—			fees, regulation amendment.....	6	4
Serum, hog cholera, licenses.....	48	5	administration, appointments.....	23	4	fiscal regulations.....	27	4
Sewing machines, exhibit.....	10	4	administration, chief.....	20	1, 8	Pullman accommodations.....	9	4
Sheep—			Storms, occurrence and damage.....	2	4	Trees—		
Bighorn Mountain, imports.....	19	3	Stumps—			dual purpose, film.....	14	2
industry—			chestnut, tannin content.....	52	3	experiments.....	9	8
decline.....	4	3	effect on plowing.....	47	5	Florida, descriptions.....	51	2
expansion.....	31	3	losses by.....	43	2	planting for shelter belts.....	46	3
profitable, 1924.....	1	2	Sugar—			Trembles, livestock, cause.....	34	6
range problems, study.....	21	6	production increase.....	1	3	Trucks, impacts report.....	2	6
scab, eradication.....	28	6	synthetic from formaldehyde.....	30	5	Tuberculin—		
Shelter belts, tree planting.....	34	6	yields of beets and cane.....	45	5	“Special F.”.....	26	2
Shipping, weather reports.....	44	3	Sugar-cane moth borer, damage to			test, reliability.....	42	2
Sick leave, rule new.....	46	4	corn.....	29	5	Tuberculosis—		
Sickness, food, publications on.....	48	5	Surpluses, farm, study by Secretary.....	52	1	avian, papers on.....	31	1-2
Signs, road, recommendations.....	32	1-2	Survey, farm products, consumption,			bovine—		
Sirup—			etc.....	23	3	eradication progress.....	42	2
sorghum, sugaring control.....	30	3	Surveys, compass in use by Forest			free areas.....	36	2
standards, use.....	24	5	Service.....	33	5	purebreds.....	15	5
Skippers, control in meats.....	41	5	Sweet potato weevil, eradication.....	6	3, 6	suppression.....	9	5
Slabs, chestnut, tannin content.....	52	3	Switzerland, foot-and-mouth disease.....	45	3	cattle testing.....	46	6
Smut, wheat, treatment for.....	45	6	Tannin, content of chestnut stumps.....	52	3	conference in Lake States.....	22	2
Snakes, hibernation and aestivation.....	37	5	Tax, gasoline, for road work.....	40	3	1.....	42	1-2
Snow, highways, aid of Weather Bu-			Taxation, forest, study of.....	45	1-2	2.....	1	2
reau.....	11	5	Taxes—			3.....	13	3
Sodium silicofluoride, poison to foli-			agricultural corporations.....	6	3	4.....	42	2
age.....	48	5	agricultural corporations, note.....	43	5	5.....	26	1-2
Soil—			Tea—			6.....	52	2
blasting condition for pyrotol.....	43	2	keeping qualities, test.....	48	2	7.....	43	3
hillside, loss by erosion.....	42	5	rejections in 1924.....	4	3	8.....	39	3
Inoculation, crops benefitted.....	25	4	standards, approval.....	10	4	Turkeys—		
maps, use in road engineering.....	30	6	Teaching, use of department films.....	31	4	growing in Wyoming.....	50	6
Soils, surveys, aid of county agent.....	17	8	Telephones, installation, etc.....	19	4	marketing.....	45	5
South—			Temperature, lowest records.....	36	5	Turpentine, stock.....	40	3
America—			Termites, damage to buildings.....	30	3	Typhoid, outbreak, discussion.....	8	3
grain shortage.....	8	3	See also Ants, white.			Unimak Island, game refuge, note.....	52	4
highways.....	50	3	Terracing, farm—			Upper air, exploration film.....	20	5
travel of department repre-			instructions, etc.....	24	4	Utah—		
sentatives.....	47	1-2	model.....	22	6	dairy herds, improvement.....	8	6
Dakota—			Texas, Panhandle, agricultural			Wendover cut-off road.....	25	1, 6
State appropriation, laws.....	17	6	changes.....	29	3	Vegetables—		
wild life protection.....	19	5	Textiles—			market wire.....	46	8
forest research.....	17	2	production by Atlanta peniten-			Porto Rico, quarantine.....	24	5
Southern Hemisphere, wheat, 1925.....	43	3	tiary.....	19	4	standards.....	5	8
Soybean growers, meeting, program,			publications list.....	20	5	Veterinarian, talks by radio.....	11	2
etc.....	32	2	situation in Europe, 1925.....	42	1	Veterinary colleges, gain in students.....	12	3
Spain—			Threshing, Canada, resumption.....	45	3	Villages, beautifying.....	8	4
crops, outlook.....	28	3	Tickets, railroad, loss protection.....	31	4	Virgin Islands, experiment station		
wheat imports.....	16	3	Timber—			report.....	38	7
Spinning, tests of cotton yarns.....	36	4	borers film.....	20	5	Virginia, extension work, appropri-		
Sprays—			chestnut-blight, value.....	41	5	ation.....	8	5
adhesive, tests.....	37	6	cut, record.....	1	3	Virus, source of fowl pest.....	10	1-2
arsenate of lead, use of fish oil.....	37	6	national forest receipts.....	41	3	Vitamins—		
Squirrels, aid in reforestation.....	6	8	protection requirements by			isolation work.....	38	5
Standard, sauerkraut.....	36	3	banks.....	33	3	study.....	24	6
Standards—			Tobacco—			value and foods containing.....	29	1
beans.....	35	3	cigarette demand.....	35	4	Wages, farm, trend.....	25	3
cotton—			Connecticut industry, studies.....	29	3	War surplus, distribution.....	10	4
acceptance at Liverpool.....	22	1, 7	Georgia crop, increase.....	33	3	Warehouse act—		
in Europe.....	28	4	grades, use.....	24	5	administration problems.....	17	5
international use.....	13	5	industry, importance.....	21	1, 8	benefits from.....	21	1, 8
food, revision plan.....	7	3	marketing, picture.....	26	8	extension.....	47	5
hay.....	36	4	merchants, address of Secretary.....	21	1, 8	violation.....	27	6
livestock, need.....	24	3	Porto Rico, industry.....	20	2	Warehouses—		
pastes.....	38	3	production decrease.....	2	3	certificates, loans on.....	48	3
tea, approval.....	10	4	types, classification.....	21	3	Federal, safeguards.....	17	3
universal, of cotton, approval.....	11	1, 8	world production.....	34	4	Wart, potato, embargo maintenance.....	46	3
work of department.....	24	5	Tornado, damage in Illinois.....	29	6	Water, supply studies.....	27	4
Statistics—			Toxicity, insecticides on foliage.....	48	5	Watersheds, protection, cooperation.....	5	2
conference, cotton problem.....	16	2	Trade—			Waterways, development need.....	46	2
cotton reports.....	1	1	exposition, New Orleans.....	10	1			
Steelyard, new, advantages.....	12	4	language, standardization.....	24	5			
Stencils, moistening compound.....	24	5	Trails, forest, mileage in year.....	16	5			

	No.	Page		No.	Page		No.	Page
Weather—			Wheat—Continued.			Women—Continued.		
Bureau—			Canada—			farm—		
aid in saving fruit.....	13	4	crop.....	5	3	home work.....	33	6
aid in snow removal.....	11	5	stocks.....	17	3	summer camps for.....	25	6
aid to airmen.....	39	6	cost and sale price.....	26	3	vacation camps.....	35	2
frost service.....	47	5	crop of world.....	47	2	Wood—		
marine work.....	34	6	“fly-free date”.....	4	5	chestnut-blight, timber value....	41	5
Ohio River work.....	27	4	futures, price fluctuations.....	20	1-2	duck, protective laws.....	46	3
special services.....	22	6	German exports and imports.....	42	3	utilization courses at Madison....	30	4
cooperative observers.....	48	6	India—			Woodchuck, bad habits.....	24	2
data by airplane, cooperation....	25	5	acreage increase.....	6	3	Wool—		
forecasts for—			crop shortage.....	17	3	clip—		
airmen.....	10	2	production estimate.....	34	3	1923, 1924.....	10	3
polar flight.....	18	2	Italy—			increase.....	31	3
forest fire, prediction.....	45	6	acreage increase.....	8	3	excess—		
harvest, forecast service.....	6	5	crop increase.....	27	6	profits.....	6	5
insurance, kinds, etc.....	26	3	Kanred, Argentina seeding.....	19	3	profits, collection.....	35	6
ocean, charting work.....	37	3	loss by “fly,” estimate.....	43	6	grades—		
reports for shipping.....	44	3	overplanting, suggestion of Secre-			approval.....	27	4
service, Philippines.....	9	5	tary.....	43	1, 8	numerical, plan for.....	38	5
temperatures for 50 years.....	25	2	prices in 1924, complaint.....	2	2, 5	grading demonstrations.....	36	6
Weevil—			seed, protection.....	45	6	growers, eradication of sheep scab.	28	6
Australian tomato, occurrence,			Southern Hemisphere crops.....	43	3	prices, outlook.....	34	3
etc.....	25	5	winter, acreage.....	5	3	research in.....	51	5
corn, control by husk.....	29	5	Whey, utilization.....	39	3	shrinkage tests.....	17	5
sweet-potato, eradication.....	6	3, 6	White Mountain Forest, addition....	13	3	standardization request.....	5	1
white-pine, study plan.....	18	3	Wild-life refuge—			standards, work.....	12	3
Weight, cut-out, of canned food....	23	4	islands.....	37	2	world statistics, collection.....	25	2
Wendover cut-off—			purchase.....	36	1, 8	Worms, control on lawns.....	6	8
building difficulties.....	25	1, 6	Winds, velocity classification.....	22	5	Wyoming, turkey growing.....	50	6
highway, importance.....	25	1, 6	Windjammer, definition and use....	46	5			
Wheat—			Women—			Yarns, cotton, spinning tests.....	36	4
bunt, treatment with copper car-			England and Wales, rural in-			Yellowstone Park, elk herd, number.	45	7
bonate.....	41	6	stitutes.....	41	1-2	Yosemite Park, forests dead.....	49	5



